Henry Chan

SURVIVAL IN THE RAINFOREST

Change and Resilience
among the Punan Vuhang of Eastern Sarawak,
Malaysia

RESEARCH SERIES IN ANTHROPOLOGY
University of Helsinki

Academic Dissertation
Research Series in Anthropology
University of Helsinki, Finland

Distributed by
Helsinki University Press
P.O. Box 4 (Vuorikatu 3A)
00014 University of Helsinki
Fax + 358 70102374
www.yliopistopaino.fi

ISSN 1458-3186
ISBN 978-952-10-3918-8 (paperback)
ISBN 978-952-10-3919-5 (PDF), http://ethesis.helsinki.fi
Helsinki University Printing House
Helsinki 2007

Contents

APPENDICES

LIST OF TABLES

LIST OF MAPS

LIST OF FIGURES

ACKNOWLEDGEMENTS

I thank the Punan Vuhang community of Long Lidem, Sarawak, Malaysia for being a wonderful host to me over the two years fieldwork. I am especially grateful to my foster parents, Naro Pua and Vihing Milang, and other family members, i.e., Milang Ruyong, Jimol and Kudun for taking good care of me. I am also thankful to Luhat Tehin, Nyinyang Enang, Uji Lating, Sayun Liwan, Ngarik Liwan, Kuyang Surau, Langin Nyuwei, and Tawing Agek for their assistance. Others who helped me in Belaga are Pastor Ajan Gau, my various foster families as follow: Johnny Pukan of Long Tanyit, Bang Jok of Uma Daro, Abat Kebing of Uma Kahei, and Chan Mau Ping @ Apan of Belaga.

I have also benefited from the support of various individuals, amongst others: Alan Wee, Jayl Langub, Lim Teck Ghee, Tan Chee Beng, Wan Zawawi Ibrahim and Zainal Kling in Malaysia; Arto Sarla and and Timo Kaartinen of the University of Helsinki; my colleagues, Nigel Lim, Sia Puon Chiew, and Wong Ting Chung of Sarawak Forestry Corporation, and; members of my home fellowship groups in Petaling Jaya and Kuching, Malaysia.

The Sasakawa Young Leaders' Fellowship Fund, University of Malaya and Universiti Malaysia Sarawak provided grants to carry out the fieldwork. Karen Armstrong and Jukka Sikaala have been instrumental at the Department of Social and Cultural Anthropology, University of Helsinki in providing travel funds for the write-up and public defence of the dissertation in Helsinki. The Research Funds of the University of Helsinki funded the publication of the manuscript.

The completion of the dissertation has not been possible if not for the unfailing support of my thesis advisor Clifford Sather. Cliff's wife, Louise Klemperer Sather proof-read the manuscript and provided many invaluable comments. I am most grateful to Cliff and Louise who hosted my stay in Portland, United States where I finally completed the write-up of the dissertation. I am also thankful to Sylvia Webb and Valerie Mashman who edited the earlier drafts of the thesis. I acknowledge and appreciate the thorough reading of the dissertation by Alberto Gomes of La Trobe University and Victor T. King of the University of Leeds in their capacity as official examiners.

Finally, I thank my wife Elley Lina and our children Ruth and Jonathan, and members of my family for putting up so much patience and support in helping me complete the thesis.

This dissertation is dedicated to the memory of my parents John Chan and Mary Kong.

To God Be the Glory

Chapter One: Introduction

Introduction

This thesis is about the Punan Vuhang, a former hunting-gathering people, often known in the ethnographic literature as the Punan Busang, who once lived in an area of remote rainforest in the Malaysian state of Sarawak. I first came across their name when I was doing fieldwork among Kayan shifting cultivators for my Master of Philosophy degree. When I was participating in Kayan farming, they remarked that there are "*Punan Tana*" (Forest Punan) who do not farm at all. When on the rare occasions someone mixed sago starch with rice to augment the food, they sheepishly said they were hungry (*lien*), did not have enough rice and therefore had to eat "hunger food," unlike Punan who eat it as their staple. When Kayan dogs successfully hunted wild boar, they said Punan dogs were better and hunted down pigs all the time. Such remarks stirred my interest and I became determined to study these hunter-gatherers. When I told Kayan of my interest, however, they laughed and warned me:

Assum! Lauh. Masi dahin ikak. Dahak ni lien avin jan tek pare. Ee!	Don't! You will become hungry. Pity on you. They are always hungry because they don't have rice. Ee!
Seek nunan. Sayukah. Dahak mele alah but avin asok Punan Busang meran-meran sayu. Dalih nong ni, lebak bavui.	No, it is not really like that. It's alright. There will be lots of pork. Punan Busang dogs are really good. Besides, there are lots of wild boars in the remote forest.

When I first reviewed the literature on hunter-gatherers and on the Punan Vuhang, who have recently adopted farming, I decided to take up two issues in my study. The first concerns a debate among anthropologists and human ecologists on the ability of hunter-gatherer communities to rely completely on the rainforest environment for their food, without any dependence on food traded from farming societies. The second issue concerns how hunter-gatherers adapted to sedentism. When logging came into the Punan Vuhang area, I examined how the community has been affected and has responded to the drastic changes that have come with logging, and my thesis expanded to include these data as well. Upon contemplating the relationship between my various topics, I changed the main theme of my thesis to an examination of how the Punan Vuhang have lived and how they have adapted to a changing environment.

The debate on hunting-gathering gives rise to several questions:

- What food sources were available to Punan Vuhang hunter-gatherers?
- How did the Punan Vuhang hunt and gather these foods?
- How did they cope with periodic food shortages?

The location of the Punan Vuhang in remote areas separated by impassable rapids from downriver people would have provided me an opportunity to study a hunting-gathering economy in considerable isolation. However, since the Punan Vuhang have settled down, the chance to directly observe hunting and gathering activities, as they occurred in the past, is no longer possible. So, based on memories of informants, and, where relevant, from participation-observation of present-day hunting-gathering activities, I intend to reconstruct

their past economy, history and social organization. I shall then review the events that led them to adopt sedentism and briefly describe their process of settling down. The characteristics of a settled hunting-gathering people will also be examined to see how their life has changed. Later, when logging reached their area, I briefly studied the problem of forest degradation and how the community has responded to it.

An Overview of the Chapter Contents

This thesis focuses on a small interior community, consisting today of a single longhouse with a population in 1995 of 70 persons, located on the Kajang River, an upriver tributary of the Rejang River, in the Kapit Division of eastern Sarawak. The members of this community describe themselves as Punan Vuhang. Historically, as we shall see, they represent an amalgamation of three formerly separate, but related, hunter-gatherer groups. In this study I trace the changing pattern of Punan Vuhang adaptation to the rainforest environment. For nearly all of their known history, the Punan Vuhang have lived as hunter-gatherers. In 1968, however, they adopted cultivation. My own research among the Punan Vuhang began in 1993 and continued through 1995, with a more brief follow-up period in November 2002.

As the study explores the questions of adaptability to a changing environment, it points towards the Punan Vuhang's ability to rely completely on the rainforest for their food. The findings of this thesis support the debate position that hunter-gatherers have been able to survive on their own without the need to depend on farming societies for food. Setting this examination in context, in the first chapters, I reconstruct in some detail the hunting and gathering economy of the Punan Vuhang, the rainforest ecology, and Punan Vuhang knowledge of the forest and modes of exploiting its resources. Even after adopting cultivation, the Punan Vuhang did not entirely cease forest gathering, and, even now, hunting remains an important element of community survival. My reconstruction of the mobile, hunting and gathering economy is therefore based, not only on interviews and the stories of elderly informants, but also on direct observation and participation in still extant community hunting and gathering activities.

Later chapters discuss the introduction of cultivation and the social, cultural, and economic changes that occurred as a consequence. Also examined is the effect of increasing commercial market relations. Finally, at the end, I look at the recent intrusion of logging into what was once a remote rainforest region that the Punan Vuhang still inhabit, and describe their response to the current destruction of their traditional rainforest environment.

Chapter One sets forth the main issues of concern in this dissertation, reviews the literature pertaining to hunter-gatherers, and, in particular, those of Borneo, and discusses the conditions of fieldwork.

Chapter Two consists of two major sections. The first describes the mobile, hunting-gathering economy in relation to the natural conditions of the rainforest. It begins with an overview of the natural world, particularly in relation to the availability of food resources. It shows how the Punan Vuhang conceptualized the natural world and its major properties in terms of a synchronized calendar linked to seasonal variations in the abundance of food and longer periods of food scarcity. This provides the basis for understanding the importance of

mobility for the Punan Vuhang, giving us the contextual argument that the rainforest environment can support a hunting and gathering way of life. The methods the Punan Vuhang used to explore new areas are also examined.

The second section deals with the history of the Punan Vuhang community during the period they lived as hunter-gatherers, roughly from the beginning of the nineteenth century to 1968. It begins with an account of their response to expansionist shifting cultivators. It also offers evidence suggesting that the Punan Vuhang were able to survive in the rainforest independent of agrarian communities.

Chapter Three provides a detailed description of the former, and in some cases, present, food acquisition methods and Punan Vuhang knowledge of the fauna, flora, and other features of the rainforest environment. It describes hunting and trapping processes and Punan Vuhang knowledge of the reaction of animals under pursuit. The chapter begins with a description of wild sago processing. This is followed by an account of the significance of wild boar and the various methods that were used to hunt this important animal. A section focuses on hunting dogs. This is followed by a description of the use of the blowpipe, while the last section describes Punan Vuhang trapping and fishing methods.

Chapter Four examines social relations of production, sharing, reciprocity and barter-trading between the Punan Vuhang and outside visitors. It also examines Punan Vuhang resource tenure, describing restrictions on the use and exploitation of forest resources as a means to conserve food for times of scarcity. Chapter Five describes leadership and community social relations with emphasis on Punan Vuhang egalitarianism.

Chapter Six outlines the Punan Vuhang former conceptions of the cosmos and relations between humans and the spirits. Also described is the former role of shamans in cultivating intimate relations with helpful spirits. From a reconstruction of the past, Chapter Seven moves into events that occurred during the period in which the Punan Vuhang took up shifting cultivation and began to settle down. It begins with the time of the Indonesian-Malaysian Confrontation (1963-1966) and it also describes new belief systems and how they were adopted in the process of settling down. Chapter Eight examines household demography, in particular, marriage, kinship, and family relations, and the former socialization of the young in the acquisition of survival skills.

Chapter Nine focuses on the contemporary economy and the consequences of the shift from hunting-gathering to a more sedentary economy. It begins by examining why the Punan Vuhang preferred to cultivate food crops rather than gather wild sago. This discussion also draws attention to how continuity with the traditional economy has been maintained through present day hunting, gathering and fishing. An examination of barter trading shows how current economic activities have become partially geared to producing materials for trade in return for outside goods.

Chapter Ten describes land and resource tenure and shows how restrictions on the use of natural resources have changed with the development of new rights resulting from sedentism. Concluding this exploration of Punan Vuhang relations to the environment, Chapter Eleven surveys the impact of recent developments on resource tenure – government legislation that denies them rights to their land and forests and the effects on their way of life of the recent loss of forest habitat due to logging.

Chapter Twelve provides a brief summary of findings and in comparison with other Southeast Asian, in particular Borneo hunter-gatherers, discusses some general conclusions.

Literature Review

The review shall focus first on the general debate concerning hunter-gatherers' independence from outside communities for food, as this is related to the dissertation's main theme in examining how the Punan Vuhang have lived and adapted to a changing environment. Concluding this section, the argument on the same subject in Borneo is presented. After that, we briefly look into studies of Borneo hunter-gatherers, with the last section discussing previous writings on the Punan Vuhang.

The Hunter-Gatherer Dependency Debate

Ethnographic studies from the early 1960s of hunter-gatherers emphasized the economic and social advantages of hunting and gathering. This was a complete reversal of an earlier notion that hunter-gatherers are marginalized people on the perpetual verge of starvation, constantly pursuing food, and failing to develop forms of social organization associated with supposedly more advantageous means of production (Barnard 1983:197).

Lee (1965, 1968, 1969, 1972, 1979) and Marshall (1961) were the main proponents of a model that maintained that the environment sufficiently provides for the needs of hunter-gatherers. Marshall argued that the redistribution of wealth among the !Kung of the Kalahari ensured that all members had enough, while Lee found that a !Kung individual spends only two or three hours per day in subsistence related activities. They argued that the !Kung are an autonomous people with a cultural identity different from that of their neighbors, and perceive themselves as a pristine people, isolated and having a socioeconomy that has persisted from time immemorial. Even though they face rapid change in the twentieth century, and despite being encapsulated by neighboring farmers, the !Kung as hunter-gatherers have remained resilient in the face of external forces.

This model of environmental sufficiency was influenced by Sahlins (1968a, 1968b, 1972:1-39) who formulated an "original affluence" theory. This theory suggests that hunter-gatherers can satisfy their needs and wants with comparative ease. As hunter-gatherers do not value accumulation of material goods, they become "affluent" because they have few needs and therefore these can be easily satisfied with a relatively small amount of labor time.

Subsequent studies later challenged this model, leading to a series of debates that persisted into the 1990s. These debates pitted against each other two schools of thought commonly known as the "traditionalists" or "isolationists," and the "revisionists" or "integrationists." In contrast to traditionalists' view of the ease in obtaining food, the revisionists documented the difficulty of some hunter-gatherer societies in obtaining carbohydrates (Altman 1984; Bailey et al. 1989; Griffin 1984; Hart and Hart 1986; Headland and Reid 1989; Milton 1984). Further, the revisionists maintained that the perception of hunter-gatherers as isolated is erroneous and is an external view imposed on them by

anthropologists (Wilmsen 1989:3; Wilmsen and Denbow 1990:519; see also Bird-David 1992a:20-1).[1]

Most revisionists accept the world systems political model, first formulated by Immanuel Wallerstein (1974, 1979), as applicable to the analysis of past and present hunter-gatherers. They argue that the devotion of ethnographic attention to hunting and gathering is itself spurious, and that researchers should instead study how people relate to the forces of capitalism and colonialism (Bird-David 1992a:20). Lee summarizes two components of the revisionist critique:

> First there is the argument from history (see, e.g., Myers 1988:262-264; Headland and Reid 1989) that accuses past ethnographers of misreading or ignoring history and political economy and hence of treating the society in question as more bounded, more isolated, and more pristine than it really is. Political-economic revisionism argues that foragers have been integrated into larger regional or even international structures of power and exchange for so long that they can reveal nothing about a hunter-gatherer way of life. Evidence of trade and political domination is cited in this thesis (1992:34).

The traditionalists defended the view that the !Kung are an autonomous hunter-gatherer people, who despite rapid changes surrounding them between the 1960s and 1990s have shown little change in their way of life.[2] This view maintains that interactions with surrounding societies take many forms and not all contacts lead to dependency and an abandonment of the hunter-gatherer socioeconomic formations. Studies among African Pygmies and Southeast Asian hunter-gatherers show that they have remained resilient and have developed stable forms of interaction with their agricultural neighbors (Kent 1992:44; Leacock and Lee 1982; Endicott 1988; J. Peterson 1978; Solway and Lee 1990:110; Yellen 1985, 1990a).

The debate extended beyond the !Kung, and questioned the validity of general models and interpretations based on ethnographic studies of modern hunter-gatherers (Kent 1992:46). The portrayed autonomy of other hunter-gatherer societies was questioned, as they were thought to have had considerable past interaction with outsiders. This interaction involved trade in minor forest produce and other economic pursuits. These hunter-gatherers include South Indian groups (Bird-David 1988; Fox 1969; Gardner 1972; Morris 1977); various African groups (Bahuchet and Guillaume 1982; Blackburn 1982; Woodburn 1988); and hunter-gatherers in Southeast Asia (Endicott 1983, 1984; Griffin 1984; Headland 1987; Headland and Reid 1989; Hoffman 1984, 1986).

Supporting the position taken by the traditionalists, Bird-David (1988; 1992a) argues that contemporary hunter-gatherers, the South Indian Nayaka, for example, despite maintaining contact with adjacent societies for centuries, show dual social characteristics reflecting both adaptation to and interaction with outside forces and a continued adherence to

---

[1] See also Bird-David (1992b), Buege (1996), Guenther (1995), Headland (1991), Kottak (1994), Kuper (1993a, 1993b), Shott (1992), Spielman and Eder (1994) and Stiles (1992).

[2] For example, Bicchieri 1990a, 1990b; Eibl-Eibesfeldt 1991; Guenther 1990a, 1990b; Kent 1992; Lee 1979; Lee and Guenther 1991, 1993, 1995; Silberbauer 1981, 1991; Silberbauer and Kuper 1966; Solway and Lee 1990; Tanaka 1990; Wiessner 1990; Yellen 1985, 1990a, 1990b.

internal social institutions among themselves. Similarly, Woodburn (1988:61-2) stresses that the Tanzanian Hadza hunter-gatherers are descendants of a people with a long history of hunting and gathering and are generally independent of neighboring peoples despite being encapsulated by them.

Revisionists have argued that in the tropical rainforest, hunter-gatherers maintain contacts with farming societies and rely on them for cultivated food. Their studies show little recognition of the possibility for human populations to subsist in a tropical environment independent of domesticated plant and animal resources.[1] Bailey et al. (1989:60) examine this hypothesis of independence by going through records searching for current-day hunter-gatherers who live isolated and independent of other communities. They found none and instead found all hunter-gatherers having considerable contact with other societies and relying on them for various needs.

Dentan (1991:422) argues against the revisionist hypothesis and asserts that its foundation based on the "Green Desert" theory is flawed. The Green Desert theory asserts that despite the greatest biomass and the greatest species diversity among all ecosystems (Sponsel 1986), most tropical rainforest plants exist in the form of inedible woody tissue (Golley 1975), with edible components mainly found high up in the tree canopy and therefore difficult to obtain (Bailey et al. 1989:61; Mc Elroy and Townsend 1985:185). Edible species are widely dispersed and it involves a high expenditure of energy to travel to reach these food sources.

In contrast to the Green Desert theory, Dentan (1991) maintains that the tropical rainforest is an ecosystem that contains a great diversity of resources sufficient to sustain a hunter-gatherer population. Using the same argument, Colinvaux and Bush (1991) assert that, instead of forest vegetation consisting mainly of inedible woody tissue, foliage production is maximized, providing food for primates to thrive both in the tree canopy and on the ground (Jordan 1983 in Colinvaux and Bush 1991:154). Hunter-gatherers use missiles with poison to shoot primates and birds living high up the tree canopy and other methods to hunt ground-dwelling animals (Colinvaux and Bush 1991:155),

Dentan further refutes the Green Desert theorists' use of the Liebig Effect, or Law of the Minimum, in dismissing hunter-gatherers' ability to survive independently in the tropical rainforest (1991:422). According to the Liebig Effect, the survival of an organism requires a critical minimum of certain materials essential for growth and reproduction. When the availability of materials barely reaches the critical minimum, the species can barely survive. The long tropical dry season causes declines in food availability and animals may migrate out of a stricken area, nullifying the effect of seasonal abundance at other periods of the year. In addition, even when available, most wild animals are extremely lean and lack calorie-rich fat and prolonged consumption of their lean meat can put a physiological strain on the body (Speth and Spielman 1983 in Bailey et al. 1989:61).

Dentan disputes the relevance of the Liebig Effect of food scarcity, because hunter-gatherers can consume a great diversity of food sources, for example, berries, fish, rats,

[1] For example, Bahuchet and Guillaume 1982; Bailey et al. 1989; Bailey and Peacock 1988; Fox 1969; Hart and Hart 1986; Headland 1987; Headland and Reid 1989; Hoffman 1984; Hutterer 1983; Rambo 1985.

mice, snakes, bats, frogs, lizards and snails (1991:426). Contrary also to the applicability of the Liebig Effect, another main carbohydrate source not affected by seasonality are wild sago palms found in Southeast Asia (Strickland 1986:126 in Dentan 1991:427). Comparatively, sago has more calories than dry rice (Strickland 1986:131), the main staple in Borneo. Despite this, many communities in Central Borneo apparently switched from sago to rice production, a switch that Rousseau attributes to prestige and taste factors rather than solely economic motives (1990:125).

A special issue of *Human Ecology* (Vol. 19, No. 2, 1991) was devoted to this debate on the independence or dependence of hunter-gatherers and foragers upon cultivated food. Stearman (1991) argues that Yuquí foragers in the Bolivian Amazon can survive independently. They consume a great variety of food as snacks while pursuing game and mark out keystone resources for future use during lean periods. Bahuchet, McKey and de Garine (1991) provide ecological evidence that the tropical rain forest in the western Congo basin has high densities of wild yams and other edible tubers, which were heavily exploited in the past. These wild plant foods allowed pure subsistent foraging before the Aka pygmies picked up cultivation. Aka now cultivate plants only because they are more easily available and less seasonal compared to wild tubers. Endicott and Bellwood (1991) report a wide range of seasonal and non-seasonal wild plant and animal resources that are utilized by the Batek hunter-gatherers in Peninsular Malaysia. Brosius (1991) argues that the Penan of Sarawak live in a rainforest environment which contains aseasonal carbohydrate sago palm and protein meat rich in nutrition. Wild sago is available in large amounts. Three persons, for example, can process over 100 lbs. of starch per day. The bearded pig (*Sus barbatus*) provides much meat with a high fat content.

In Borneo, the debate has focused on the ability of the Penan and Punan hunter-gatherers to survive independently. In addition, the debate also relates to the contention of Hoffman (1984, 1988) that the Punan hunter-gatherers were originally agriculturalists who became hunter-gatherers in order to trade forest produce for agricultural products. Brosius (1991:130) dismisses this notion and argues that despite vigorous trade relationships between Penan/Punan and outside traders, no agricultural products entered into the trading, and so maintains that these hunter-gatherers could survive independently by acquiring food resources exclusively from the forest.

Hoffman (1984:142) asserts that Punan hunter-gatherers in Borneo have always been involved in trade, citing Needham's observation that "they need to trade with the settled people . . . in order to remain nomads" (Needham 1972:177-178). Hoffman develops his idea further by suggesting the opposite:

> They do not trade in order to remain nomads, but rather, I suggest, they remain and possibly even became nomads in order to trade. . . . Punan do not collect forest products to support themselves while hunting; they hunt, gather, and fish to support themselves while collecting forest products. Trade is not just another thing the Punan do; it is the thing that Punan do most. The collection and trade of forest products, not hunting, is the historic raison d'être of nomadic, primary-forest groups known as Punan. Both the demand for these forest products and the local need for goods they bring in exchange have led to the hunting and gathering adaptation that modern-day Westerners observe in groups called "Punan" (1984:143).

The demand for forest products came from sedentary people who needed these products from outside trade but did not have the means to obtain them themselves (Hoffman 1988:109). Besides, Hoffman argues (1984:137-139; 1988:107-108), the collection of various valuable forest products, such as aloe wood, edible birds' nests, bezoar stones, porcupine stones, etc., for trading caused the Punan to go into the forest, so "that the existence of Punan groups in Borneo arose initially from the demand for various products desired by Chinese" (1986:102).

Hoffman's assertion that the Punan became forest collectors to trade is explained by his theory of the ecological-economic dilemma of trade. Various forest products such as resins, rattan and gutta-percha, besides those obtained for trading with Chinese traders, were also utilized by sedentary village-dwelling swidden agriculturalists themselves. These people found it difficult to exploit the forest by themselves because of the great distance involved in getting there.

> More often than not, their villages are surrounded by gardens and swiddens, and these in turn are surrounded by broad expanses of secondary forest. Primary forest is usually found only at the outer boundaries of a village's lands, and this may give way to another stretch of secondary forest belonging to some adjoining village. Many of these sedentary peoples would thus be forced to travel great distances from their villages to gather forest products in quantities sufficient for trade. The undertaking of such long-distance journeys involves an expenditure of time that these sedentary agriculturists cannot often afford. . . . [and] necessarily divert time from the annual cycle of activities associated with swidden agriculture. . . . This ecological-economic dilemma is the key to the origins of the Punan. I suggest that it was precisely this inability of sedentary agricultural groups to adequately exploit two distinct ecological niches—namely, tropical forest horticulture and tropical forest hunting and gathering—that led to the evolution of a separate hunting and gathering culture that is found in Borneo today (1988:109).

In short, "Hoffman contends that the existence of peoples such as Penan [and also Punan] in Borneo is explained exclusively with reference to their roles as providers of forest products in local trade networks" (Brosius 1991:137). Brosius, who studied the Penan hunter-gatherers of Sarawak, partially agrees with this contention, "it is indeed the case that Penan and other Bornean foragers have long occupied a specific niche in the economies of interior Borneo. Such people have been a major source of forest products which are traded to longhouses and thence to the coast for consumption or export" (1991:137).

Beyond that, however, Brosius dismisses Hoffman's claim that "Penan/Punan exist primarily to trade, that trade is their *raison d'etre*." He further argues that Hoffman's arguments about the ethnogenesis of Bornean foragers are entirely misinformed and add up to little more than an exercise in conjectural history. He elaborately details the methods and methodology of Hoffman's fieldwork that he insists have led to the flaws in Hoffman's work.[1]

[1] Hoffman's work has also been criticized by scholars who worked among hunter-gatherers in Borneo (Brosius 1988a; Kaskija 1988; and Sellato 1988, 1994). I shall not dwell on these critiques as that of Brosius under review (1991) explains the principal sources of contention involved. See also Sellato (2002:105-135) for a reconstruction of the culture history of forest nomads especially on the origin of various hunter-gatherer groups in Borneo.

For that reason, his "appraisal of Hoffman's work is not a matter of disagreement over interpretations, but a critique of the factual foundation upon which those interpretations are based" (1991:142).

Besides disagreeing with Hoffman that Penan/Punan are retrograde agriculturalists who became hunter-gatherers in order to trade, he suggests the opposite viewpoint might actually be the case. He asserts that many contemporary agricultural societies derive from hunter-gatherer populations, as is mentioned by Whittier (1973), and that a number of former hunter-gatherers are known to have settled in historical times (Brosius 1991:139). According to Brosius, Hoffman's flawed research caused him to assume that the Punan are not ethnically distinct from sedentary agriculturalists, whereas the opposite is the case. He further disagrees with Hoffman's completely fallacious statement that "the word *Punan* was far more commonly a term of reference applied to nomads by sedentary peoples than an actual label of identity for the nomads themselves" (1991:140 citing Hoffman 1986:17). According to Brosius, "Among . . . Penan in Sarawak, the autonym they apply to themselves is *Penan*, and the Punan Busang refer to themselves as *Punan*" (1991:140).

Apart from that, Brosius further criticizes Hoffman's assertion that Punan hunter-gatherer communities dwell in deep forest areas for accessibility to forest products collected for trade. Instead, Penan/Punan locate themselves close to areas of abundant *Eugeissona* sago palm, their main staple food. "Penan/Punan explicitly and consistently state that it is the relative abundance of sago in various locations in the forest that determines the location and duration of settlements" (1991:142 footnote 18). The use of sago as the staple food is what enables the Penan/Punan, as we shall see, to be independent forest dwellers.

As a contribution to the debate, this dissertation provides ethnographic details in support of the argument that hunters-gatherers could survive without relying on farming societies for food. The data presented here show that the rainforest, as an ecosystem that contains a great diversity of resources, is capable of sustaining a hunter-gatherer population. These data also support Dentan's argument that the Liebig Effect of food scarcity did not apply as the Punan Vuhang had both adaptive and social strategies to cope with long periods of food scarcity. The case of the Punan Vuhang lends some support to Sahlins' "original affluence" theory that suggests hunting and gathering people are able to easily satisfy their needs and wants because they have few needs. In fact, of the things they need the most, food, the Punan Vuhang show little concern if no one succeeds in obtaining food for any particular day. They know that someone will get something the next day and share it with everyone else. So long as every hunter explores a field further away and is diligent, there are lots of little things to be found.

Unlike some hunter-gatherers who are encapsulated by neighboring farmers or have close contact with them (see Woodburn 1988; Bird-David 1988, 1992a), the Punan Vuhang live in forests located at a great distance from farming societies. In the period when the Punan Vuhang were nomadic, traders would deplete their food ration by the time they reached Punan Vuhang camps and then relied on food collected by their hosts. As such, the study supports Brosius' position (1991) against Hoffman's argument (1984, 1988) that hunter-gatherers traded forest produce for agricultural foodstuffs. Tobacco was the sole agricultural product traded, and it was a luxury item, only a little of which could be brought

along on the long and difficult journey. The Punan Vuhang, after having a little, would ignore their further cravings for tobacco.

Leaving this debate, we then look at the issue of sedenterization in Borneo. Sellato (1994:171-175) pointed out that before the intervention of the government, pressure by farming societies to settle around trading centers appeared to be the cause of hunter-gatherers taking up sedenterization. Initially, only a few families lived around the trading center and they cultivated hardy plants such as bananas and cassava that could be harvested all year round. For most of the time, they ventured out into the forest to collect forest products for trading. In the second phase, some families attempted rice cultivation. With small swiddens and poorly maintained farms, they had poor harvests and continued to rely on sago and on the collection of forest products. From this commencement of agriculture, hunter-gatherer groups then built longhouses and cultivated a variety of other plants. In the third phase, they devoted more time to their crops, and in the process became farmers. Other hunter-gatherers stopped at the second phase of horticulture, to continue their reliance on wild sago and collect forest products for trade.

During the initial phase of a few families taking up simple agriculture, it was farming societies that often took the initiative to settle them (1994:172-173), for it was advantageous to have forest collectors living around trading centers. Farming allowed a sort of gender division of labor in which the engagement of women in farm work enabled men to focus on collecting commercial forest produce. Furthermore, settlement around a trading center ensured that the collected products would not be traded elsewhere. However, when the "irreversible shift" of the third phase of sedenterization occurred, and hunter-gatherers became farmers and no longer collected forest products for trade, the supply of forest products dried up. According to Sellato (1994:174-175), for that reason, there were cases when farmers disapproved of Punan taking up agriculture, even to the extent of opposing government efforts to convert them to rice farming.

Previous Writings on the Punan Vuhang

Today, the Punan Vuhang live at Long Lidem, the name given to the junction of the Lidem tributary with the main Kajang River. "Punan Vuhang" is an endonym that the community members use to refer to themselves. "Punan Busang" is an exonym, and the name that they use to refer to themselves when talking to other people. It is also the name that outsiders generally call them. I was told that the name "Busang" derives from the Kayan word for an island which is located in the Balui headwaters where these people once lived.

Hendrix Tillema (1938/1989:121-134), in his travels through Central Borneo in what is now Kalimantan, was probably the first man to publish an account of the Punan Aput and the Punan Musang.[1] The first recorded visit to the Punan Vuhang was by Donald Owen

[1] Both the Punan Aput and Punan Musang were related to the Punan Vuhang and lived together on common ancestral lands before their migration out of the upper Balui of Sarawak. While the Punan Aput remained in Kalimantan, the Punan Musang migrated to Sarawak in the late 1970s where they are now called "Punan Long Unai," following the place-name of their settlement at Long Unai.

in 1924, a Brooke officer in pursuit of Iban who had gone up the Linau headwaters in defiance of a government order (1924:169).

I.A.N. Urquhart was the first person to write on the Punan Vuhang, and based his writing on information provided by his fellow travelers (1951). He made an expedition to the upper Linau to take a census of the Punan but only encountered three Punan Vuhang passers-by. W. Huehne (1959), a medical doctor on an anti-malaria expedition, was the first writer to camp with them when they were at Long Petjawah. Lim Poh Chiang, a shop owner from Sibu took some pictures of the people in 1962. Tom Harrisson (1965a, 1965b) flew in by helicopter to where the Punan Vuhang were camped during the Indonesian confrontation and wrote about their bird names and a fascinating account of their secret communication system. D.B. Ellis (1972a; 1975) led a research team in a short study of this people in 1971. Other writers who briefly mention the Punan Vuhang are Jayl Langub (1973; 1974) and Peter Brosius (1988b).

I will now briefly comment on these reports on the Punan Vuhang, drawing from my experiences in the field, but will leave the details for inclusion in later sections of the dissertation. Despite reliance on outsiders for his information, I.A.N. Urquhart's description of the Punan Vuhang is generally accurate. The main text is reproduced here:

> I have seen three Punan Busang. They were quite differently tattooed from any people I have seen before, including a tracery pattern across the chest. They abhorred the sun and as they were travelling out of the jungle when I saw them, they carried kajangs (woven leaves to give protection) around with them. They would put their kajangs over their heads and shade their bodies even if going only five minutes in the sun. . . .
>
> For the rest of what I write I have had to rely on Kayans, Punan Lusong and Belaga Malays and Ibans, who all agree to the correctness of the information given below, unless I mention the information as coming from one specific source only.
>
> The Punan Busang are supposed to be somewhat cleverer at jungle lore and more able and energetic at hunting than Punan Lusong. They will rarely give up until they have caught their quarry. They build up stocks of mats (and carry them around with them if they decide to move) and thus are not caught unprepared by the unexpected arrival of traders. Following on this they are less indebted to the settled tribes than are the Punan Lusong for instance. The Punan Busang are not ashamed to bathe naked and uncovered when amongst their own sex only, and a man may have as many as three or four palangs. Their shelters are far inferior even to those of the Lusong Laku and are so small that the Punan Busang themselves cannot all lie out full length. Everyone remarks on how these peoples, their houses and dogs all stink pronouncedly. The people are very prone to korap (eczema) and their dogs to mange. The dogs are loved as children and sleep inside the mosquito nets, and Penghulu Taman Lihan relates he once met a woman who was suckling a puppy because her baby had died. They have more children than the Punan Lusong, and are very fit. The Punan Busang revolt other races by the food they eat but attribut [sic] their good health and strength to this same food. They cook pig with fleas, leeches and bristles still on and eat the intestines and eyes. If they have a surplus of meat, they hang it on a tree but do not cook it until they need it and are perfectly prepared to eat it three days later when it has gone bad and is covered with maggots and worms. Their normal food is sago, which they often eat in a watery mash. When a death occurs the Punan Busang pull down all their huts and burn them and decamp quickly leaving no trace of where they have gone to. The Punan Lusong say the Punan Busang burn their dead, and they also say they have bird omens

> quite different from those of other Punans. The Punan Busang are supposed to be akin to the Punan Aput now in Indonesian Borneo. There was a fairly recent case of a Punan Busang who came to Belaga hospital but could not stay there because he so hated rice that he vomited it all back and there was no sago available for him. The Punan Busang appear to stand less nonsense than other Punans, and if they are offended at all they straightaway disappear into the jungle and are not heard of again until their need for salt, tobacco and bangles drives them once more to regain contact. . . . The Kayans say the Punan Busang have long known how to negotiate rapids and long ago used to go as far as Kapit to trade by river (1951:531-532).

I include here some of my observations to substantiate this account. His only encounter with the Punan Vuhang showed them to abhor the sun. It is still true even today that they avoid, when possible, the sun's heat. When the river was low, the people would seek shelter under a big tree and sit on the dry shoal by the river bank. If the river was high, they would sit underneath a tree with a thick canopy to escape the heat. However, the men had adapted well to the sun. During the whole day-long river journey from Long Tanyit to Lusong Laku, they could travel exposed to the sun without wearing a hat.

The men continued to bathe naked although most women wrapped a sarong around their waist. As a participating researcher, I also bathed like the men, using my palm to cover my private parts until my waist was submerged in the water. After we were in the river, we did not have to cover ourselves anymore. Bathing naked, however, was only done among the same sex. Old men continued to bathe in that manner in the presence of the women. It is true that all the adult males have the *palang*, or penis pins, although the number of pins per person I could never substantiate.[1] The younger generation, however, no longer wear penis pins.

Concerning the dogs, I suppose the mangy dogs mentioned to Urquhart were those old dogs which the people continued to keep. Dogs are part of the households and are well taken care of until they die of old age. In some households, the dogs were still being provided with their own mosquito nets and blankets. Harrisson, as reviewed below, wrote how the people took great care of their hunting dogs. The reference to the "revolting" food with maggots and worms is accurate. When I first reached the field site, I was nauseated when I saw the maggots on the meat kept in the shelter for later cooking (a day or two later). I did not say anything about the meat to avoid offending them, but instead put a covering over it. After that, the meat was always covered by my household to prevent the flies from laying eggs on it. My foster household initially prepared the meat by burning and scraping the bristle before cooking it. One day, I almost vomited when I saw an old couple having their meal with the bristle still on the meat. Eventually, however, I realized I should eat as they did and one day I took the initiative to cook the meat without removing the bristle. During mealtimes, I just peeled the skin off and gave it to the dogs. From then on we cooked our meals the traditional "revolting" way.

In 1959, a medical officer led an expedition to eradicate malaria mosquitoes. The Punan Vuhang recalled him as *Tuan Nyamok* or Mr. Mosquito. W. Huehne (1959) reported

[1] The penis pin is a pin that is inserted in a hole made in the penis prior to sexual intercourse. Its purpose is to provide more stimulation to the woman (Rousseau 1990:27). See also Reid (1988:149-51) and Brown (1991).

that the medical department had been mistaken about the lack of malaria among the nomadic hunter-gatherers. They had assumed that the nomadic life gave no time to build up an infected mosquito population in the jungle. They found they were mistaken when a high incidence of malaria was discovered: "50 percent of all children having enlarged spleens, and in 30 per cent of all children malaria parasites [were] found in the blood" (1959:196). The Punan Vuhang (Punan Musang as written by him), "seem to be dying out rapidly." Out of a population of 128 people only twenty-six were children between the ages of one and fifteen years; no birth had taken place within the last year" (1959:219-200).

Huehne reported on the extent of trade and found that the Penan (he also studied the Penan) and Punan were seriously indebted to traders and believed it to be a form of economic slavery. He was exasperated with the "bondage;" "It was impossible for the writer to buy even *one* mat from the Punan, even though offering five times as much as the Kayan traders. The reason for this was not ill-will, but merely that everybody is in debt to the Kayan traders" (1959:200). He also reported on the exchange value of the barter trade,

> One mat is two cheap sarongs ($1.50 each) and three "pots" (about 18 ounces) of Kayan tobacco, grown in the trader's own plantation. Other commodities like needles, thread, soap, hair oil, lighters, matches, fuel, etc., are used (1959:200).[1]

Besides trading directly with the Punan, he reported that several Kayan chiefs employed the Punan as porters. The services of the Punan Vuhang and the Penan Apau, a group of Penan staying by the Linau headwaters, were used to transport goods from Sarawak into Indonesia where commodities fetched extremely high prices. His traveling companions told him:

> This is quite lucrative business, since the price of one gong [brass-ware] in Indonesia is about the piece of cloth value $1.50, the price in Sarawak anything up to $20.00. Bezoar stone costs two or three pieces of cloth and fetches about $200 in Sarawak. The profiteers out of this business are the Kayan chiefs.[2]

Just before the 1963 Indonesian-Malaysian Confrontation, a photographer visited the Punan Vuhang when they were camped in the Bela'up area. Lim Poh Chiang (1989) published a pictorial study of his travels and the Punan Vuhang were included in his work. Several people shown in the book were still alive when I went to the field site in 1993. According to informants, this was the first time that traders accompanying Lim introduced fish nets to the people. They were amazed at the abundance of fish that could be caught, filling up to three-quarters of their boat. Lim showed a photo of two men "laboriously" carrying a lot of big fish over their shoulders (1989:40).

---

[1] Huehne reported that in Sibu, the mats were sold for not less than $30 each.

[2] In fact, Taman Bulan who organized the expedition and is recognized by the nomadic people as a trustworthy person in negotiations between them and the government, was at one time the richest man in Belaga.

In 1965, Tom Harrisson stayed with the Punan Vuhang for a considerable period. During that era of the Indonesian-Malaysian confrontation, the Punan Vuhang were accompanied by the Commonwealth Forces wherever they went. Harrisson wrote on the subject of the peoples' remarkable secret communicative system. In addition, he described the relationship with their hunting dogs as something unseen among other people. The Punan "have a special dog platform or bed, nicely made . . . well inside the warm shelter" (1965b:69). He also included their story of the origin of their dogs and their rules regarding dogs.

Concerning their communication system, he wrote about how closely related household members used whistling to communicate with each other.

> [I]f you are sitting at the edge of the temporary clearing, talking to somebody, he may suddenly interrupt a sentence by whistling. If it is a boy or a girl, probably the parents will be whistling them to eat or do some small job about the family shelter . . . every Busang has a distinctive double syllabled name, exclusive to his or herself. Every such name has its whistling equivalent. If a mother wants to call her son, she does so with his whistle. This can carry a hundred yards . . . . I have sat and listened to such a conversation between a mother and son, where it has afterwards been explained to me that she told him to come back to the hut, he refused, she insisted, he whistled acceptance but in a very disobliging "tone," before he went off (1965b:72-73).

Harrisson described the three reasons why the Punan used the whistle language instead of calling out loud.

> Firstly, it is not desired to attract loudly the attention of adjacent spirits to individual persons. Secondly, these nomads are extremely secretive about their movements . . . . The whistle language is a method of maintaining contact and even detailed communication **without** the use of the human voice. . . . Thirdly, these whistled conversations do not frighten wild animals or disturb the jungle environment as a whole, in the way that human voices definitely do (1965b:73). [Emphasis original].

He offered an explanation of how the whistling and the secret communicative system blended with the environment. Enemies unfamiliar with forest wildlife would not be able to identify the source of the sound:

> The several jungle calls are not necessarily of two syllables. They are mostly similar to those of birds, squirrels, insects and certain frogs. These people have an unrivalled knowledge of the natural history of their area, can imitate hundreds of call notes accurately. They roam the sub-montane and montane fauna regions. Encroaching lowland Iban, Kayan or Kenyah, however jungle-wise, will meet many unfamiliar animal sounds as they go above the 2,000 foot contour ("sub-montane") and into the 3,000 foot levels (fully "montane" fauna) in which the present community freely moves. It would therefore be extremely difficult for any outsider to guess that the whistle he now heard was not truly of animal, non-human origin.
>
> Among the standard special calls by whistle are "come here," "coming," "can't move," "pig ahead (to right, left, etc.)," "possible danger ahead," "something ahead, I don't know what it is," "help me quickly," "stay still," "don't move," "run for your life," as well as signals for special animals, features, distances (1965b:73-74).

The Punan Vuhang stopped using this whistling around the time they became Christian in the early 1970s. Nonetheless, it took time for them to stop using the system completely. Only the children below four years of age do not possess "whistle names." When I asked my informants about this subject, they said that whistling was also an intimate form of communication among adults. For example, a wife whistled to her husband who was in a gathering to return for his meal. It would be very embarrassing for her to walk in front of the people and call him back. As an intimate call, nobody would be aware of the call as it sounded similar to birds' calls. (In the chapter on bird hunting, we will see how hunters imitate bird calls to draw birds to them). Upon hearing the call, he would carry on the conversation and then excuse himself to return. If he could not return, he would not whistle back and the wife would not keep on whistling for him. In this context of intimate communication, the Punan Vuhang would feel embarrassed calling for adult members, especially the spouse, to return for a meal. During my fieldwork, whistling was no longer practiced and a mother would simply call out loud her child's name to inquire of his whereabouts. I frequently heard children calling back "Hoi!" to indicate their presence. If a child did not hear the call, other people would tell him or her of the mother's calling.

The third feature that Harrisson wrote about was the sign communication system to indicate a message in the forest. The sign system used sixteen types of message sticks implanted in the ground to convey a message. For example, a hunter who did not see any sign of sago, fruits or animals, would plant a stick to inform other hunters. Consequently, when a hunter saw the sign, he would not explore that area again and this therefore saved his time instead of searching in vain for something that was not available. Unlike the whistling language, the Punan Vuhang continue to practice the message stick system, although some types have fallen out of use.

In June 1971, a research team led by D.B. Ellis conducted a month's research among the Punan. According to the Punan Vuhang, Ellis was a British army captain who was stationed with the group that accompanied them during Confrontation. Captain Ellis must have been fascinated with the Punan Vuhang and therefore organized a research expedition after Confrontation. The findings were first published in the *Sarawak Museum Journal* (1972) and repeated in the *Malaysian Nature Journal (*1975). The study focused on five subjects, namely: social aspects (Ellis 1972a; 1975); compilation of a word list (Wilson 1972; 1975); hunting methods (Sloan 1972; 1975); medical reports (Oldrey 1972; 1975); and music (Martin 1972; 1975). The study also includes a checklist of bird names (Ellis 1972b). The contents of the papers are similar in both journals. Nonetheless, the 1972 *Sarawak Museum Journal* includes a section on tattoos (Ellis and Ellis 1972:281-282) and the 1975 *Malaysian Nature Journal* does not, but does contain a list of plants found within their locality (Ellis 1975:170-172). This plant list, however, does not include Punan Vuhang ethnobotanical names of the plants.

Further notes include: Jayl Langub (1973, 1974) who provided his opinion on the Penan/Punan nomenclature and wrote that the Punan Vuhang are noted for their unique tattoo designs. He found that they are a very gentle people who have fair skin and are lightly built. It was Jayl Langub who suggested that I study the Punan Vuhang when I consulted him on studying hunter-gatherers in Sarawak (see below). Johannes Nicolaisen (1976) visited them in 1973, and reported that the people were very keen hunters, although they had

settled a few years before his visit. He mentioned that the Punan Vuhang claimed they are related linguistically to the Ukit and Sihan, and the Punan Bah (Nicolaisen 1976:43). My informants also told me they have linguistic similarities to the Punan Bah. In fact, when I visited the Penan Talun, who have Sihan men married into their community, they were surprised that I could speak a smattering of "Sihan."

Peter Brosius (1988b) briefly wrote about the people in a confidential report to the Sarawak State Government.

Fieldwork

Fieldwork lasting for twenty-one months was carried out from June 1993 to February 1995, with a follow-up study in November 2002, in Long Lidem. During the first part of my fieldwork, I was able to participate in and observe activities associated with times of food scarcity. In 1994, a flood swept away most of the community's newly harvested rice, forcing them to fall back on sago processing. Participation in and observation of their activities during the long lean period with intermittent periods of minor fruit seasons and migratory wild boar provided me with a glimpse of the past when the Punan Vuhang were still nomadic. In-depth interviews enabled me to gain a better understanding of the mobile economy in addition to information on their history, social organization and a range of other issues.

I lived in the household of Naro Pua and Vihing Milang who became my foster parents. Besides taking care of me, as a knowledgeable and articulate individual, Naro Pua narrated and shared with me information that forms a substantial part of my dissertation. Frequently, after eating dinner, we sat by the fireplace, drank coffee, smoked cigarettes and talked. Our conversations did not merely involve me learning from him; he was inquisitive and asked about the affairs of the world. In such a relaxed atmosphere, I did not take down notes, for doing so would transform the mood into a serious discussion. Only when Naro was in a very good mood and contented with the day's work would he want to hold formal interviews by narrating stories into a tape recorder.

As a member of his household, I participated in many of his activities, with the exception of hunting. The community forbade him to bring me along on his hunts, concerned that bears could attack me. I had to convince the community that as an ethnographer, I must participate in their activities, regardless of the potential danger. To overcome their worry, I wrote a letter relieving them of any responsibilities should harm befall me. It was only then that Naro and other hunters would bring me on their hunts. Even then, when Naro hunted alone with his hunting dogs, I could not follow him. Hunting with dogs required a high level of endurance running through the thickets. As I could not keep up with the rapid pace of pursuit, I could only join hunts that involved more than one hunter, with one person slowing down his pace to guide me.

My other main informants were Uji Lating, Nyinyang Enang, Luhat Tehin and Sayun Liwan, who were recognized as knowledgeable individuals in the community. Uji Lating is an expert storyteller. According to Naro Pua, many of the stories that Uji recited were precisely what storytellers had narrated in the past. During social gatherings, Uji was the person who narrated legends and folklore. In addition to stories, Uji provided me with

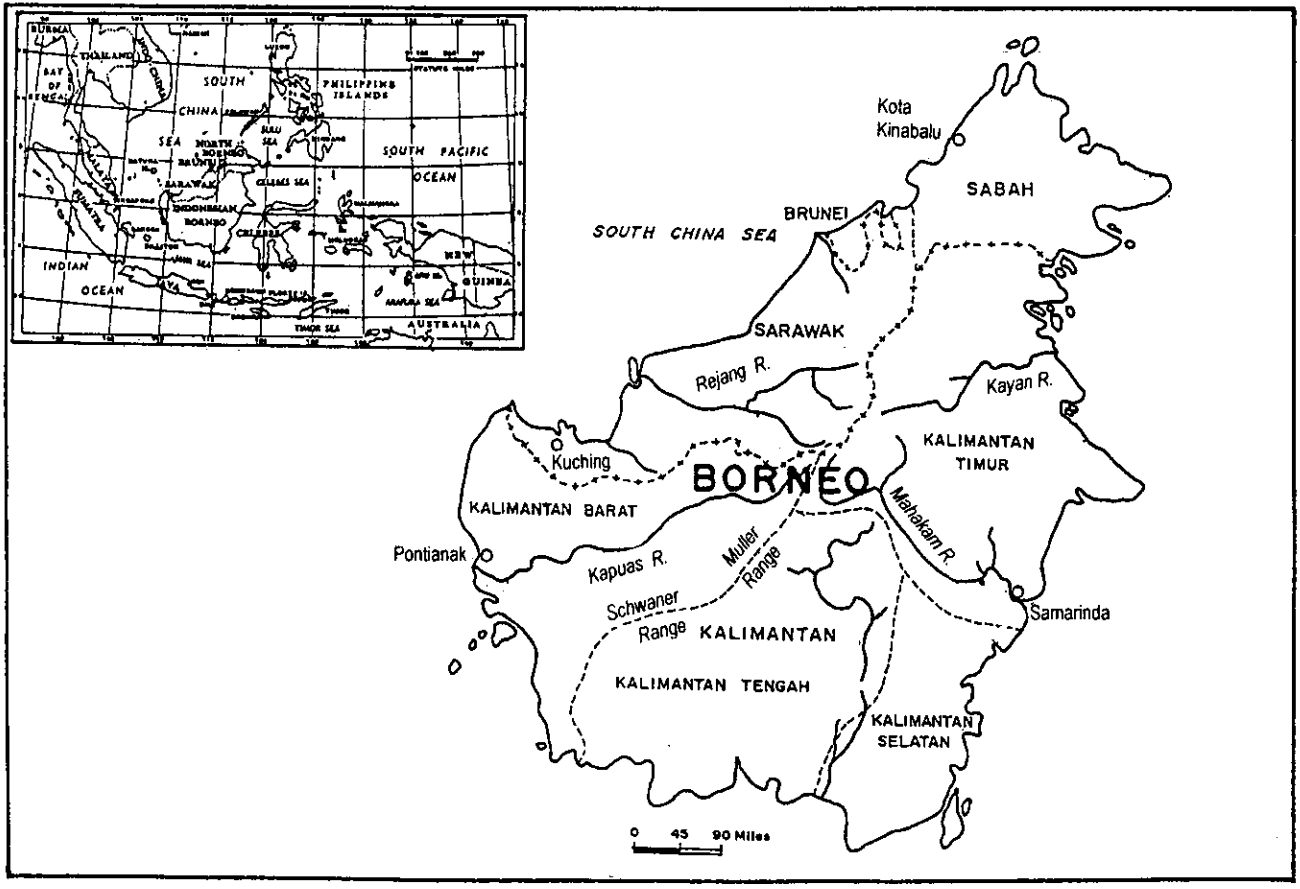
much of my information pertaining to hunting, trapping, fishing and gathering when they were still nomadic.

Nyinyang Enang, the last surviving shaman, had been my main informant on the cosmos. As a headman, he possessed much information on political leadership, and much of the information in the chapter on politics is attributed to him. Nyinyang died a few months before I returned for my second fieldwork in November 2002. Luhat Tehin, who claimed that he was born before the era of the First World War, was my other main informant on oral history. He died in 2000. To cross-check some of the information, I consulted with Sayun Liwan. On matters relating to gender and the household, I consulted with Vihing Milang, my foster mother, and Ngarik Liwan, a midwife and an articulate woman.

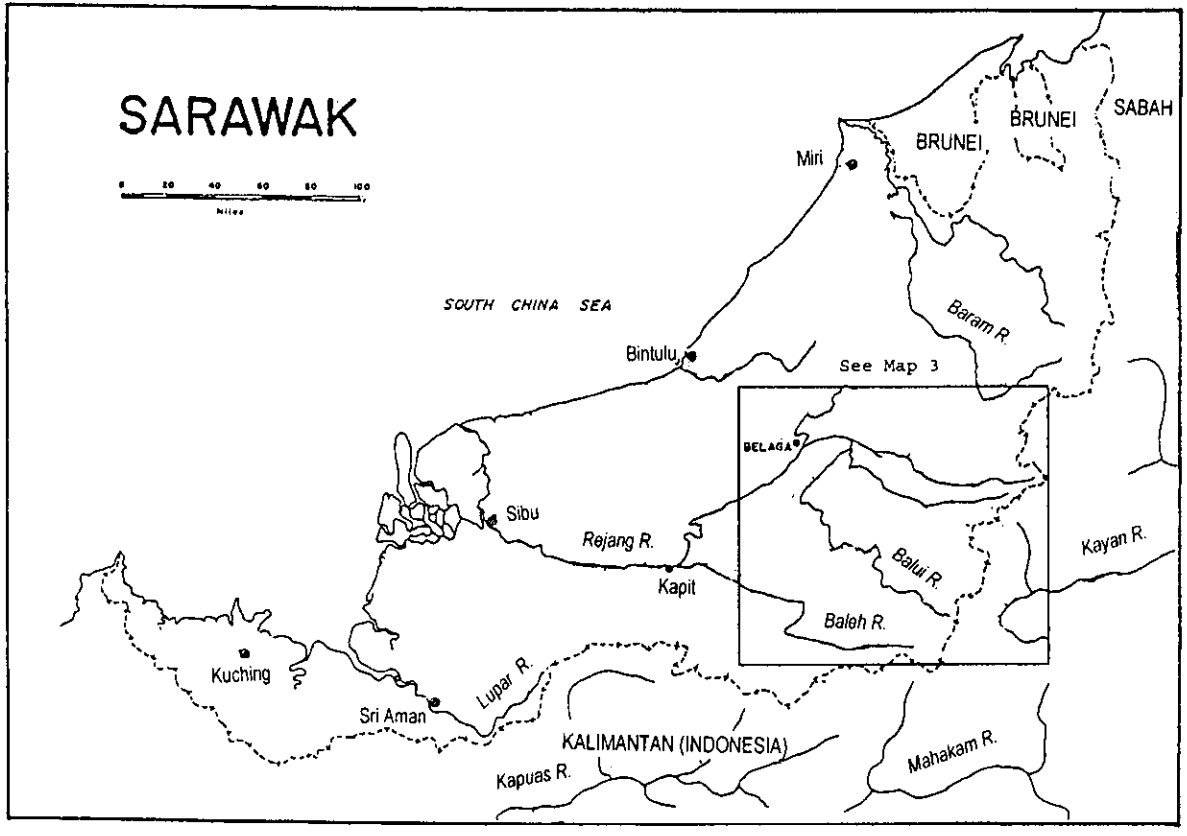
Participation observation was my other method to gather information. I was fortunate to have a glimpse of the past when the Punan Vuhang relied on sago. The flash flood that washed away their newly harvested rice in early 1994 led the Punan Vuhang to revert to sago collecting. So I participated in sago processing, an activity they usually no longer do after successfully practicing cultivation. As mentioned above, I hunted and gathered with them. Concerning farming, I participated in two shifting cultivation seasons: of 1993/94 and 1994/95.

Concerning data gathering, a substantial amount of information was obtained during informal situations. Periods of social interaction provided much information in response to particular events, such as an occurrence of a death (the passing of Langin), camping away from the longhouse, collecting rattan, hunting, processing sago, fishing, or doing farm work. The period immediately after dinners was most relaxing, and sitting beside the fire provided the most conducive atmosphere for conversation.

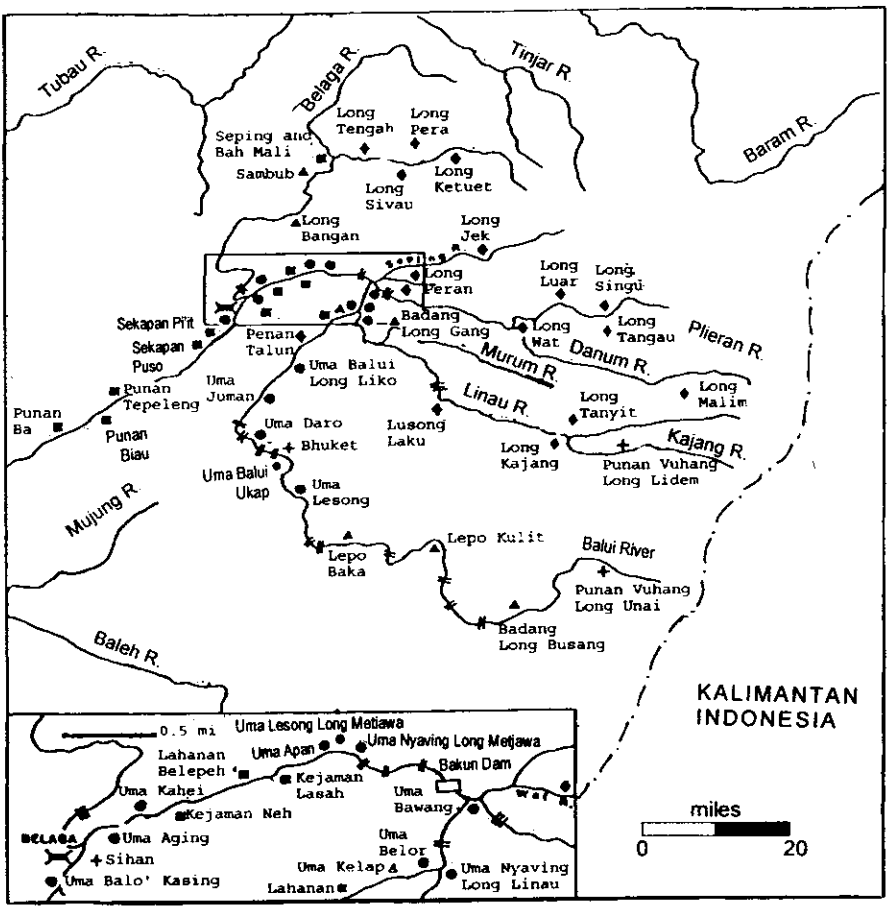
My main research methodology is qualitative. Initially, I gathered quantitative information. However, for various reasons, some members of the community were only willing to share what foods they had obtained on a daily basis on condition I would not make use of some “sensitive” data in my thesis. As I could not fully use the information, I then chose to omit entirely the quantitative data on their economic activities. It was only then that the people were relaxed in my presence.



Map 1: Island of Borneo



Map 2: Sarawak and the Adjacent Territory of Kalimantan



Adapted from Rousseau (1988:24)

Note: Today, all the longhouse communities upriver of Uma Bawang to Lepo Kulit on the Balui and Long Gang on the Linau have resettled at the Asap Resettlement Area due to the Bakun Hydro-Electric Project that submerged the area.

▲	Kenyah or Badang	+	Punan Vuhang, Bhuket, Sihan
■	Kajang	=	rapids
●	Kayan	≡	impassable rapid
♦	Penan		

Map 3: The Balui Area, 1995

Chapter Two: The Rainforest Environment, the Former Mobile Economy and Early Punan Vuhang Responses to External Events

Introduction

The Punan Vuhang today live in a single longhouse settlement called Long Lidem, at the estuary of the Lidem, a small tributary of the Kajang River. In the past, they moved about in a wide area, encompassing some 1500 square miles that covered the headwaters of the Balui River (the name given to the upper part of the Rejang River, the longest waterway in Malaysia), and its tributaries of the Danum, Linau, Kajang, Bahau and the Kihan, tributary of the Iwan River of Indonesia (see Map 8 Page 56). Rapids and waterfalls along the upper parts of these rivers inhibited traveling and discouraged shifting cultivators from living here, and in the past, only hunter-gatherers occupied this region. Until recently when logging intruded, the area was covered with pristine rainforest vegetation. It was in this isolated region that the Punan Vuhang lived from time immemorial.

This chapter is intended to provide an overview of the physical environment of the Borneo rainforest in which the Punan Vuhang lived, and the way they had adapted to this environment through the practice of their mobile economy. It concludes with an account based on their oral history that shows how they responded to the external expansion of hostile shifting cultivators into these environs.

Except for the first part describing the rainforest ecology, where I have made references to the literature to complement the Punan Vuhang's knowledge of the environment, my informants provided the rest of the information. Having experienced, firsthand, life as it was when they were still mobile hunter-gatherers, they could recall in detail much of what I have reconstructed and written here. Older informants narrated the oral history while other knowledgeable informants helped to weave the fragments of this history into a cohesive picture.

The Borneo Rainforest[1]

The island of Borneo consists of an area over 270,000 square miles and is the third largest island in the world. It lies across the equator and stretches from about 4° south of the equator to 7° north. The climate is equatorial and the amount and pattern of rainfall varies from place to place with most areas receiving 200 to 400 centimeters per year. While the average rainfall is at least 10 centimeters in most months, the period from June to September is considered a relatively dry season (Sellato 1994:9; Payne et al. 1985:26-28). The natural vegetation consists of evergreen rainforest which is "fabulously rich in both plant and animal species" (Whitmore 1990:58; 1995:5). The rainforest of Borneo contains hundreds of animal species, many of them edible. Included are more than 200 mammal species (including bats), about 350 species of birds, more than 200 species of reptiles and more than 80 species of amphibians (Payne 1995:54).

The natural vegetation in tall lowland and hill forests up to 1000 m. altitude is dominated by trees of the Dipterocarpaceae family which supports the highest diversity of

[1] A detailed description of the rainforest can be found in Rajindra Puri's ethnography of hunting among the Penan Benalui in East Kalimantan (Puri 2005).

mammals (Payne et al. 1985:28). According to the rainforest ecologist and botanist, Whitmore:

> The Dipterocarpaceae are a family of numerous tree species centered in Southeast Asia. . . . The greatest concentrations of dipterocarp species are found in Sumatra, Malaya, and Borneo (Ashton 1982). Borneo alone has 9 genera and 287 species of dipterocarps. No tropical rainforests anywhere in the world are so dominated by a single family of trees (1995:10-11).

The Dipterocarpaceae plant family provides a super abundance of fruit that feeds wildlife during the major fruit season. Whitmore gives a further unique characteristic of this plant family:

> In addition to their abundance and species-richness, western Malesian dipterocarps have another unique property, namely, gregarious flowering and fruiting two or three times per decade. Across a large area, many, if not most, dipterocarp species will flower within a few weeks of one another, even if no flowering has occurred for several years (1995:11).[1]

During the dipterocarp fruiting season, in various regions, the whole rainforest canopy is covered with flowers and fruits, and the forest floor is littered with fruits (fieldwork). Besides these abundant dipterocarp species, there are several other plant families that produce edible fruit. According to another botanist, Soepadmo (1995:28), "no fewer than 120 species of wild trees in the tropical rainforests of Malesia produce edible fruits" and often many fruit trees in the same genus are found together. Notable examples are species in the genera *Artocarpus* (Moraceae), *Bouea*, *Mangifera* (Anacardiaceae), *Durio* (Bombacaceae), *Garcinia* (Clusiaceae), *Lansium* (Meliaceae), and *Nephelium*, *Pometia* and *Xerospermum* (Sepindaceae). Citing Jensen et al. (1991), Soepadmo says that there are 389 kinds of edible fruits and nuts in the tropical rainforest.

When these seasonal plants are not fruiting, according to Payne (1995:59), the wildlife survives on *keystone* plant resources that do not fruit seasonally, but are available throughout the year:

> Trees and climbing plants of the Legume family (Fabaceae) are particularly important in Malaysian forests in supplying food—including fruit, leaves, shoots, flowers, and barks—for primates, squirrels, and possibly other mammals, especially when fruits are scarce (Chivers 1980, Marsh and Wilson 1981). The term *keystone* has been used to refer to plant resources, such as figs and legumes, that play this type of prominent role in sustaining plant-eating animals through periods of food scarcity (Terborgh 1986).

From these accounts, the Bornean rainforest may be seen as a resource base containing food enabling the survival of its numerous species. This is in contrast to the Green Desert theory (Dentan 1991:422), which asserts that despite the greatest biomass and the greatest species diversity among all ecosystems of the world, most tropical rainforest plants exist in the form of inedible woody tissue. The availability of keystone resources, therefore, challenges the applicability of the Liebig Effect or Law of the Minimum that argues that during

[1] "Malesia" is the name given to the heartland of a large area in Southeast Asia known to botanists as stretching from the Malay Peninsula to Papua New Guinea (Whitmore 1995:5).

a period of great decline of vegetable food resources, most animals may migrate out of a stricken area, thereby causing hunter-gatherers great difficulty in surviving, since both plant foods and game are in decline. I will say more about this in later chapters, particularly when discussing wild sago.

The Punan Vuhang Synchronized Calendar

From the viewpoint of food availability, an understanding of the former Punan Vuhang mobile economy requires an analysis of the tropical rainforest from a human ecological perspective. During the occurrence of a major fruit season when a great many forest trees bore fruit, the Punan Vuhang experienced a season of fruit and game abundance. Outside this major fruit season, only a negligible amount of forest vegetation bore fruit, and this resulted in a much lower population of wildlife. Thus, the period of seasonal abundance provided a time of high food yield, while, on the other hand, scarce food resources during lean times required an intensified effort to survive.

The following is a description of how the seasonal aspects of rainforest resource availability affected the Punan Vuhang economic system. It entails an observation of their synchronized calendar in correspondence with the major fruit season, in which the Punan Vuhangs' methods of food acquisition were adapted to temporary resource abundance. In contrast, the long lean period outside the major fruit season made necessary more strategic and diversified methods of acquiring food.

The first month of the Punan Vuhang calendar began with the start of the flowering season. Subsequently, the months that followed corresponded with further seasonal changes in forest vegetation. A brief description of the tropical rainforest ecology helps to show how the two phenomena are interrelated.

According to Whitmore, the abundance of food is associated with the animal breeding season, and the lean period of low food production is correlated with minimum breeding (1984:72). Studies by ecologists have shown that drought is associated with the gregarious and synchronized flowering of forest trees which results in heavy fruiting, and the production of new leaf flush (for example, Burgess 1972; Leighton and Leighton 1983, Longman and Jeník 1987; Ng 1977, 1981; Whitmore 1984).

The fruit season is related to drought, as a long period of dry weather results in waterstress that induces the shedding of leaves to reduce water loss in mature forest vegetation. It is common for deciduous species to flower and fruit while the crown is bare during the dry season (Whitmore 1984:66; Longman and Jeník 1987:186). On the other hand, peak flowering in evergreen species occurs during the transition to the wet season (Longman and Jeník 1987:186).

Besides drought, other factors contribute to this seasonal change of forest vegetation. These include the concomitant rapid increase in the hours of sunshine with clear blue skies (Whitmore 1984:69). The rapid drop in temperature that normally "accompanies a sudden tropical thunderstorm. . . or the relieving of water stress by the rain, can trigger flower opening after a dry spell" (Longman and Jeník 1987:189). With a sudden rainstorm, "the bud initial is chilled during its formation" thus triggering blossoming (Whitmore 1984:70). Most of these factors, as seen later, were signs observed by the Punan Vuhang to indicate the occurrence of a major fruit season.

Another ecological factor is the phenomena of the major and minor fruit seasons. Generally, a major fruit season occurs once every two years with heavy fruiting throughout the region. In the following year a minor fruit season occurs with fruiting only occurring intermittently across the land. Among the forest vegetation, the Dipterocarpaceae are notorious for their infrequent fruiting and gregariousness. Whitmore writes that "dipterocarps in general fruit heavily every 2-3 years with occasional intervals of up to 5 years" (1984:68). This non-occurrence of fruiting every year "suggests that a given tree may need a prolonged period of physiological preparation before it is ready to respond to an external stimulus to flower" (1984:68-69). The Punan Vuhang regarded the season when most trees bore fruit as a major fruit season, and the intervening years of few fruiting trees as minor fruit seasons. A folktale that explains this irregularity of seasons appears later in this chapter.

Although it seems that periodic flowering is probably the rule for most tree species, there are some tree species that flower continuously (Whitmore 1984:70). Leighton and Leighton (1983) list some aseasonal plants that provide animals with major resource patches during low fruiting periods. These plants, called "keystone mutualists," permit the maintenance of animal populations that have fixed home ranges and do not escape unfavorable periods through migration. Such plants include the Melastomaceae and Rubiaceae families as well as the *Ficus* species, the Annonaceae, the Meliaceae and the Myristicaceae.

The description above, in particular the correspondence between drought and flowering, fits the beginning of the cycle of what I call the Punan Vuhang synchronized calendar. According to the Punan Vuhang, a long period of continuous drought, which the Punan Vuhang called *bohok unyat* or *bohok magahan* ('very long drought') would result in *barak bua'* ('fruit flowering').

Besides the long drought, the Punan Vuhang believed the appearance of several signs was necessary to assure that a major fruit season would come about. The first sign was when the rising sun lit up the horizon with red sunlight, thus causing the day to start with a warm morning. If the period of these days with intense sunlight was long, the fruit bearing would be heavy. To initiate a major fruit season, the duration of this period of intense sunlight should last for at least a month. The second sign was a result of the continuing dry season that caused the lowering of river levels (*po'ngehok*) to expose shallow river beds. The third indication was the presence of a kind of worm making deposits on submerged stones that the Punan Vuhang called *barak batu*—'flowers on the stone.' They believed that the more deposits that were found on the stones, *magahan barak batu*, the greater the extent of the flowering season.

They believed that at the end of the drought, the occurrence of a thunderstorm (*nyalapen*) with flashing lightning (*luru palati*) would have a strong effect in inducing trees to bloom. The strong wind (*bayu*) and heavy rain (*hujan tohon*) that accompanied the thunderstorm, according to the Punan Vuhang, caused the flowers to open (*muxit barak*). Following the thunderstorm, various types of mushrooms, especially the *kulat bua'*, flourished. Without an abundance of these mushrooms, the fruit season would be less heavy. Two to three weeks later, the forest vegetation would begin to bloom.[1]

[1] The flowering of the *lukukun* fruit tree also indicated a major fruiting season. If it did not bloom, then the year was a minor fruit season.

The appearance of flower buds marked the beginning of the cycle of a new year. The Punan Vuhang considered the moon (*langa'ne*) that appeared during this appearance of flower buds as the first 'month' (*langa'ne jik*). After that, a numerical sequence recorded the subsequent appearances of the moon, the second month was *langa'ne duo*, the third month, *langa'ne telo*. This went on until the tenth month, *langa'ne pulo*. Following that was a period of unspecified length when the Punan Vuhang no longer marked the passing of the moon, for they were then at the end of the cycle.

The sequence from the beginning of the flowering season (*ngebarak*) was as follows: The flowers turned into full bloom and then petals dropped off during the second month. A month later, the flowers turned into fruit buds (*patup bua'*) and then matured into fruits in the fourth month. Flowers matured at different rates, according to the tree species. From the Punan Vuhang's experience, among the plants that first ripened were the *oriu, tobo* and *terbulu*.[1]

The ripening of *oriu*, *terbulu* and *tobo*, followed by *molang* and *pusong* in the fifth month, marked the beginning of the fruit ripening season. Various types of fruit ripened gradually, culminating in the peak fruit season during the seventh month, when most types of fruit edible to humans (*kun linau*) were ripe for eating. Eventually all types of edible fruit ripened, including *avong*, *lapa'un, lengakja*, *luyan*, *o'it*, *pangin* and the *punuk*. The edible fruits that ripened last were the *bavet*, *bua' eh yin*, *keramu, mahak* and *opai*. As the following month passed, most fruits became overripe and began to drop at a very fast rate. This indicated the passing of the edible fruit season. However, the eighth month was also the beginning of the inedible fruit season, when fruits that only wild boar could consume (*kun bavui*) began to ripen. These included the *bayit*, *bua' upak*, *kavakob, tason* and *terkalet*. Two months later, in the tenth month, all types of fruit became overripe. From then through the following season of drought, the forest vegetation did not show any significant change to indicate the passing of the seasons. This was the period which, unlike the others, was of indefinite length and so the months (i.e., passing of the moons) were not counted. Counting only began at the beginning of the next major fruiting season with the appearance of flower buds.

In addition to the abundant flowering, another sign that indicated a heavy fruiting season would come was the singing of the *kali kevoh* bird (*Malacopteron affine*; plain babbler). Its melodious song at dawn signaled the bearing of fruit about three months later. As the forest bloomed, honey bees (*Apis dorsata*; *singot*) began to arrive. Not long after, they built massive beehives to contain honey from nectar and pollen that they had gathered from the abundant flowers. At the height of the flowering season, many flies (*languh*) also appeared.

---

[1] Scientific names are provided in the text whenever available. The collection of plant specimens for species identification was beyond the scope of this field study, but will be done in a future project.

Figure 1: Punan Vuhang Calendar Synchronized with Major and Minor Fruiting Seasons

Note: In this calendar, the beginning of flowering after a long drought season and the appearance of the first moon, mark the commencement of the first month. After that, a numerical sequence records the subsequent appearances of the moon. However, due to irregularities in the time of flowering during a minor fruiting season, the Punan Vuhang could not reliably determine the beginning of the flowering season when their calendar would start, and so could not determine when the end of their calendar would come.

Table 1: Economic Activities according to Month, Season, and Resources During Nomadic Times

Month	Season	Resource	Main Economic Activities
1st	appearance of flower buds which then open into full bloom	small game	sago processing, hunting with blowpipes, fishing, trapping
2nd	flowers mature and petals drop off	returning wild boar / honey	sago processing, hunting with dogs, honey collecting
3rd	flowers turn into fruit buds	small game	sago processing, hunting with blowpipes, trapping
4th	fruit buds turn into fruits	small game	sago processing, hunting with blowpipes, trapping
5th	fruits ripen	fruit / ground dwelling game/ localized wild boar	sago processing, fruit collecting, hunting with dogs, trapping
6th	mid-fruit season	fruit / localized wild boar	fruit collecting, hunting with dogs
7th	peak fruit season	fruit / localized wild boar	fruit collecting, hunting with dogs
8th	end of edible fruit season beginning of inedible fruit season	wild boar migration season begins	hunting with dogs, lard processing
9th	peak of inedible fruit season	peak of wild boar migration season	hunting with dogs, spearing, lard processing
10th	season ends for all fruits	end of wild boar migration season	hunting with dogs
beginning of unspecified time-period	beginning of lean time	Medium size game: monkeys and birds	sago processing, hunting with blowpipes, fishing; trapping
end of unspecified time-period	seasonal drought begins	small game	sago processing, hunting with blowpipes, fishing; trapping

Usually, during the year following a major fruit season, only a few isolated areas had trees bearing fruit. Even after a period of drought, the location of trees bearing fruit was uncertain and the Punan Vuhang might not find fruit again for an entire year. Sometimes they were fortunate and came across flowering or fruiting trees in their forest explorations. Then they planned the timing of their movements to coincide with the ripening of the fruit. However, the actual period of fruit ripening could not usually be determined with certainty. By merely looking at the flowers or fruits, it was difficult to estimate the actual number of months that

had passed since the beginning of flowering. Only when the community happened to be present at the earliest stage of flowering could they identify the first stage that indicated the first month. Consequently, unless the Punan Vuhang witnessed the initial period of flowering during a minor fruit season, they could not measure time according to their synchronized calendar. For that matter, measured time "ended" at the end of a major fruit season. Due to this uncertainty and unpredictability of encountering the early stage of flowering, the Punan Vuhang did not bother giving a numerical sequence to the months after the end of the fruit season.

The occurrence of the major and minor fruit seasons was a common and constant phenomenon. The Punan Vuhang explained this situation with this version (shortened here) of the *suket* story of *Buring Besing Mek Tupok Meligoh* (Buring Besing Quickly Pounding Paddy).

> One day Buring Besing went to fetch water by the river bank and she found the river full of dead fish floating on the water surface. She quickly returned to her farm house to pound paddy so that she could eat rice with a dish of the dead fish. Because she was impatient to eat the fish, she pounded the mortar so furiously and at such a fast speed that the pounding produced a loud thundering sound. The loud sound startled a deer and it ran for its life. The deer ran so fast that it knocked a vine that was entangled around a tree branch. The blow shook the vine which snapped the tree branch and caused it to break. When the broken branch fell, it dropped onto the son of an otter. When the otter found that its son had been killed by the falling branch, it bit the branch.
>
> The branch cried out, "Why do you bite me?"
>
> "Why wouldn't I bite you? You fell on my son and because of that he died. So I am biting you to punish you!" the otter countered.
>
> "Iah! Who wants to drop on your son? I broke from the tree because the vine shook me, thus causing me to break. So it is not my fault that your son died."
>
> Then the otter bit the vine and the vine cried out, "Why do you bite me?" The otter answered that the vine deserved punishment for causing the death of his son. So the vine blamed the deer for causing it to shake. Then the otter bit the deer's bottom. The same line of passing the blame continued and the otter bit Buring Besing. Buring Besing explained that it was the dead fish that caused her to pound the paddy so furiously so that she could eat the fish with rice. The otter then bit the dead fish. As the *suket* story is told, the "dead" fish asked,
>
> "Iah! Why do you bite me?"
>
> "Why wouldn't I bite you? You died and floated on the river. Then Buring Besing saw you and wanted to eat you right away. She then pounded rice so furiously that her loud pounding startled the deer. Because of that, the deer ran for its life and knocked into a vine which shook and caused a branch to snap. The branch dropped on my son and it killed my son. So you are the cause of his death."
>
> "Iah! Who wants to die? It is the *palajeu* tree that bears so many flowers. When the flowers dropped on the river, we were hungry and so we ate the flowers. It is the flowers that poisoned us and so we died. We didn't die on purpose, it wasn't our intent to die."
>
> Then the otter bit the tree. The tree put the blame on Kun Kakap, the name of a bird. The tree said it was the bird which caused it to bear so many flowers. So the otter scolded the bird. He blamed it for his son's death and demanded that the bird return to its place of origin. The bird tried to explain but the otter refused to listen. In shame, Kun Kakap flew back to its home.
>
> Then there was no fruit for a long, long time. All the animals then gathered and discussed what they should do. The otter was remorseful and explained that it was his fault for chasing the bird away. Finally, a butterfly volunteered to fly all the way across the seas to plead for the bird's return. So the butterfly flew day and night. When it became tired it hitched a ride on a piece of driftwood and floated on it. Finally after flying for many days, it came to the land of the bird.

The butterfly pleaded with the bird to return and help make fruit. Kun Kakap explained that he created fruit in the world because he was sympathetic to all lives. Unfortunately, his action was not appreciated and instead he was blamed for the otter's death. He became so ashamed of being chased away that he swore never to return to the world again. However, he changed his stance because of his sympathy for the world. He decided to give his son to the world to help create the fruit. He gave an egg to the butterfly and instructed the butterfly to bring it back. When the bird had hatched, the butterfly would bring him up and tell it to create fruit. However, Kun Kakap warned that because the young bird would grow up without any instructions on how to create fruit, it would not be able to create fruit all over the world.

So the butterfly flew back with the egg. When the bird hatched, the butterfly took care of it. When it became big, the butterfly explained the reason for being with him and informed him of his role in creating fruit. As the young bird did not know how to make fruit properly, it could only make fruit in a few places. After a few years, Kun Kakap would fly back to the world to help create fruit, thus resulting in the major fruit season. For this reason, in some years, only one or two rivers have fruit trees yielding fruit. It is only in certain years that trees bear fruit throughout the region. This story explains the occurrence of the major and minor fruit seasons (see Jayl Langub 2001: 9-17, 18-24 for a Penan variant of this tale).

The Punan Vuhang synchronized calendar also showed the types of non-fruit resources that were available during each phase of the cycle. As can be seen in Table 1, the types of these resources conformed to the seasonal stages of flowering and fruit growth. An examination of how these two factors interrelate shows that the seasonal availability of fruit, in turn, determined the non-fruit resources available to the Punan Vuhang, especially game.

From the first to the fourth month, when the trees were in full bloom, the Punan Vuhang were only able to hunt small game if they had already been in an area for a long time.[1] Meanwhile, during the third month, beehives contained the highest yield of honey, as the bees had collected nectar for several months. After that, the flowers dried and then turned into fruit buds which deprived the bees of nectar. From the fifth to the tenth month, the Punan Vuhang took in a variety of fruit and game, although their main hunting focus was on wild boar whenever it was available.

In the tenth month, when most fruit trees had stopped bearing, the animals began to disperse widely to forage for increasingly scarce food. Until the following fruit ripening season, very little food was available. The animals then had to rely on a diversity of foods, for example, leaf shoots, roots, berries, insects, worms, snails and crabs. This scarcity of food continued until the following fruit season.

The occurrence of a fruit season determined the availability of wildlife as well as the former foraging activities of the Punan Vuhang. Fruit collection became the main task of every community member during the fruit-ripening season. Hunting for wild boar became the principal occupation of all men during the wild boar migration season. On other hand, during phases of food scarcity, the Punan Vuhang used a variety of strategies to acquire sparse food resources in order to survive.

[1] The fourth month was an exception, as returning wild boar passed by the Punan Vuhang territory, see page 100.

To better understand how their economic activities depended on seasonal factors, I will describe these former practices starting from the fruit ripening season, that is, during the third month.[1] At the beginning of the season, most types of fruit that ripened initially were sour and had thin layers of flesh. The Punan Vuhang ate these fruits as snacks. Fruit that ripened later consisted of two types, sugar-rich fruit that contained high levels of carbohydrates, and lipid-rich fruit with high fat content that provided much nourishment. Fruits that fell into this nutritious category were, for example, *luyan*, *beliti*, *punuk* and *keramu*. As these fruits ripened and matured in increasing abundance, the Punan Vuhang began to rely on fruit as a source of staple food other than the usual sago starch. For about four months, fruit became the major source of food. This period therefore was the beginning of an affluent time with food in abundance. Members of the community jointly collected fruit and camped at locations with concentrations of fruit groves. Households on their own, or individuals by themselves, collected fruit in areas where fruit was less prolific.

At the same time as the fruit was ripening, various types of ground-dwelling animals came to feed on the overripe fruit that fell to the ground. The presence of so many animals provided the Punan Vuhang with a great opportunity to trap them. This game included a population boom of juvenile animals whose births were triggered by the flowering season. The setting of noose traps provided meat to supplement their diet of carbohydrates. At the same time, the fallen fruits enabled wild boar to concentrate their foraging in small areas scattered over a wide territory. By using hunting dogs, the Punan Vuhang could easily hunt these wild boar.

In the eighth month, the edible fruit (*kun linau*) season ended, but the inedible fruits (*kun bavui*) then began to ripen. These fruits of the Dipterocarp family, that included the *bua' manator* and *tason*, provided abundant food for the migrating wild boars that soon arrived. These wild boars were very fat as they had been abundantly feeding for several months since they began their migration from distant forests. From the eighth to the tenth month, during the wild boar migration season, hunters killed fat pigs and processed them into lard (*lanye* – a preserved form of oil). When a hunter killed a fat pig, he sliced off the thick slabs of fat to take back to the camp, and then abandoned the remains of the carcass. During the season when the migration was at its peak, a hunter could kill up to six or eight usually juvenile pigs in a single day. The amount of lard that a hunter's household could process limited the number of wild boars that a hunter would kill (see Footnote, page 98).

With the abundance of fat wild boar, hunters enjoyed a hunting sport called *kusi*. For this, a hunter tracked down a wild boar without the aid of hunting dogs. This required special skills, and an even greater ability to spear the wild boar at a very close range before the pig detected the hunter. As a sport, a hunter would hunt as many pigs as possible, but chose only the big and fat ones, and then carry back only a few slabs of fat. As proof of the number of pigs he had killed, he would take back all their tails. A month or two later, depending on the year's amount of fruit, the inedible fruit season ended. Then, the animals which migrated (as opposed to the ones which stayed in one location, feeding on keystone species) moved on

[1] For the sake of clarity, I begin my description with the third month of the major fruiting cycle. The availability of food during the first two months was similar to that of the unspecified time period during the previous cycle.

to other areas where the fruit would ripen later. This marked the end of the affluent time of the year.

After the ending of the food abundance season, the unspecified time period began. This could extend for more than a year if the Punan Vuhang were unfortunate enough to entirely miss the minor fruit seasons that took place only in some areas. Otherwise, they could hunt fruit-foraging wild boar (*bavui tone*) for a short period and consume some fruit. Not long after this, the Punan Vuhang were forced to fall back on sago as their staple food. As they faced difficulty in hunting wild boar, hunters began to search for varieties of game they did not hunt earlier. Initially, medium size game such as monkeys and birds were the focus of their blowpipe hunting. However, these animals later became cautious (*usam*) and escaped before less skillful hunters had the chance to shoot them. They even developed avoidance habits to elude hunters who attempted to track them (see page 108). Then the hunters shifted their strategy and used blowpipes to hunt smaller animals that they had ignored earlier. These included tree shrews, squirrels and various types of small birds. These small animals provided a little nutrition until the people soon moved on to areas where animals were unfamiliar with human hunters and could be more easily killed.

Although mainly using blowpipes, the Punan Vuhang also set noose traps across the low hill ridges to trap ground-dwelling animals. To supplement their diet, they fished. After torrential rainfalls had caused rivers to swell, they set fish traps in the subsiding tributaries. On the main river they also set fish traps when the water had subsided for a few days. In dry weather when the river was low and the water was clear, they speared larger fish with harpoons, while women used lines and hooks to catch small fish. Some men who were diligent (*bahik*) in seeking food looked around, lifting logs to search for pythons or pangolins, or looked for sago worms. During this period of scarcity, the Punan Vuhang had to put in great effort to hunt for game spread out over a large area.

On the fourth month after the flowering season, the return of migrating wild boar that had gone upriver during the previous season broke the monotonous scarcity of food. After all the fruit trees along their migration route had finished bearing, these wild boar returned downriver to their places of origin. They quickly passed through Punan Vuhang territory as too little food was available on their way back to prolong their foraging. By then they had become very thin. Despite this, the pigs gave an opportunity for hunting, thus providing some meat during this lean period. The Punan Vuhang then turned to gathering honey when it was at its peak yield. Then, they went through a month of scarcity. Shortly after, however, the fruit bearing season began. A few months later, the fruit ripening season started and the Punan Vuhang experienced again a period of abundance.

This account of the Punan Vuhang's synchronized calendar is at variance with what Sellato reports: "In this equatorial environment, where seasons are hardly perceptible, most resources are available all year round, and those which are not (fruits, wild pig) are unpredictable. There is no recurring annual event, no cycle, to give a rhythm to the passage of time for the Punan" (1994:144).

Not only are there clear seasons, the Punan Vuhang recognize events leading to major fruiting and the new cycle of abundance following the period of scarcity which is of varying duration. The accounts of thunderstorms preceding flowering and the creation of

flowers by the Kun Kakap bird are similiar to the stories of the Batek hunter-gatherers living in the rainforest of Peninsular Malaysia:

> This distant rumbling [thunderstorms] is supposed to be the thunder-god, Gobar, signalling the superhuman beings to drop the fruit blossoms on to the earthly fruit-trees. . . . where they enter the limbs of fruit-trees and cause flower buds to burst out (Endicott 1979:56).

The Mobile Economy

We have seen how the Punan Vuhang viewed the natural world they inhabited and the way they organized themselves around the seasonal availability of foods, and the relationship between the rainforest ecology and the nomadic economy of the Punan Vuhang based on their mobility. This information provides the foundation for our understanding of their hunting and gathering system which depended on the natural occurrence of resources. The characteristics of the Bornean rainforest ecology described show the existence of a wide variety of seasonal foods, and the depiction of the synchronized food calendar elaborates the Punan Vuhang's view of this natural phenomenon. Integrating these two features, the seasonal availability of food and the synchronized calendar, enables us to reconstruct their mobile economy, providing the basis to understand how these hunter-gatherers were able to rely exclusively on the rainforest for food. Building on this, later chapters provide some idea of the social aspects of production and details on various methods of food acquisition.

The Punan Vuhang today no longer practice many of the economic activities described here. The community has been settled permanently for the last two and a half decades, and has now adopted a chiefly horticultural economy with rice cultivation as a vital component. This horticultural economy, as it now exists, is discussed separately in Chapter 9. Nonetheless, the Punan Vuhang, remain, to some degree, a hunting and gathering people in that they continue to hunt and to collect wild plants for food, although the extent of their hunting and gathering is no longer as significant as it was in the past. For clarity, all their hunting and gathering practices are here described in the past tense, although it is to be understood that some have continued through to the present, although now the foods collected by hunting and gathering merely supplement their cultivated rice, tapioca and bananas.

Based on the tropical rainforest ecology and their dependence on the natural occurrence of food resources, the former hunter-gatherers practiced a nomadic economy rooted in mobility. The following description is a reconstruction of activities that, prior to 1968, characterized this nomadic economy.[1] In the past, the Punan Vuhang moved from one river system to another after consuming the resources of each system in turn. The account that follows focuses on the thorough exploration and exploitation of resources carried out in each river system.

---

[1] This description mainly applies to the lean time during the non-fruit season when food was scarce and the Punan Vuhang had to rely on a great variety of resources, in particular, sago. During affluent times when food was in abundance, they did not have to move about so frequently. Instead, they stayed in an area with a concentration of fruit trees or along major wild boar migration routes.

When the nomadic community occupied a river system for an extended period, from several weeks to a few months, they in time exhausted the available food in the area. The community members then found it increasingly difficult to obtain sago and game. Frequently members searched far and wide for scattered sago groves, including camping overnight (*misan luq*) to process sago in distant locations. Hunters ventured far away from their usual hunting grounds, going up to highland areas and mountain ranges to search for game. With increasing frequency, hunters faced low hunting yields. Even when successful, they usually obtained only small game that barely sustained their own household.

Then, the elders called attention to the deteriorating conditions and the intense effort needed to acquire food. The community leader (*kejian* or *kotokek*) called for a meeting (*putuhok*). He expressed his concern that the river system could no longer sustain them and asked his followers to consider moving to a new area. Members were likely to agree and support the idea to move.

After reaching a consensus to leave, they chose the new area to which they would move. Although the community preferred to go to a river system with maximum resources, the health of community members and the distance were overriding factors in the selection of a new location. The decision had to take into account the weak members and the old. If anyone could not undertake a long and difficult journey, the community chose a location that avoided climbing and crossing high mountain ranges. Nonetheless, if there was no choice but to go far away, young men would take turns carrying the infirm in their *kalong* baskets.

There was a case in which an old infirm man who had no relatives was abandoned at the camp when the community had to go to a very far land. Later, when young members went back to give him food and then carry him to the new site, he was already dead. The man had died with dignity, as he did not finish the food left for him. The Punan Vuhang believed that he chose an early death for he did not want to further burden the community. If he had remained alive they would have had to carry him whenever they moved camp.

During these periods of food scarcity, the community divided itself into two groups in order to go to different areas. This division into groups with fewer members put less pressure on the limited resources. One group moved into its usual territory in the upriver regions of the Kajang, the Linau, and the Kihan rivers. The other group covered the lower Kajang and mid-Linau areas. In lean times, this strategy provided them with a wider base for food. The fission was mutual and as stated by Sellato, “It is probable that an increase in population within a band, making the search for food more difficult, often plays a role in band fission” (1994:146). This is in contradiction to Ellis’s statement that the Punan Vuhang, “after discussing the increasing scarcity of sago palms in their region, could come to no consensus as to a solution and separated into two bands” (Sellato 1994:146 citing Ellis 1972a: 237).

Observation of Taboos in Mobility

When the community decided to separate, they observed the *adet terkakjeh* taboo (see page 202). According to this taboo, the community could only separate into different groups by each group leaving on a different day, so that all would never leave at the same time. The group that possessed less food, hence having a more urgent need to leave, would go first. Auguries (*behok*) were taken into consideration at this point. Along the way, if they met any unfavorable augury, they would return to camp for a night. Consequently, the

second group would also have to delay their departure. On the next day, if the first group again met an unfavorable augury, they would have to return once more. However, the Punan Vuhang seldom met with bad omens a second time. If there were still another unfavorable augury on the third attempt, they would abandon their journey and follow the second group that had yet to leave. The Punan Vuhang believed that the occurrence of so many bad omens indicated an ill-fated journey.

With the first group successfully gone, the second group would take their turn to leave. Similarly, they also observed auguries. If auguries prevented them from carrying out their journey, they would abandon it and follow the first group. The observation of auguries continued once they had set out. Even after both groups had successfully left the camp, if one group later repeatedly faced unfavorable auguries, they would abandon their journey and follow the other group. The Punan Vuhang did not mention the occasion of both groups similarly experiencing such unfavorable auguries. Usually, it was one group that faced obstacles along the way with the other having a smooth journey.

Exploration into a New Area, *Nasok Tanok Lehik*

This section continues the description of traveling to show how the community moved into a new territory to continue their quest for food resources. The decision to go to another area involved the choice between moving into one that had been occupied before, or moving somewhere entirely new. As the Punan Vuhang have lived in the present region since the dawn of the 20th century, they are now familiar with the territory. However, as the ethnohistory section later indicates, the community had originally migrated from their ancestral grounds over a long distance. To be able to travel to a new and unfamiliar area, the Punan Vuhang used two methods of exploration which I have reconstructed below on the basis of narrative descriptions by my informants.[1]

The first way was a gradual exploration by hunters who explored an entire river system before the community entered to live in the area. They obtained detailed information about the physical layout of the ground, tracing access routes and looking for collecting and hunting areas to identify suitable locations for later encampments. The other way was exactly the opposite. In the second method, the community's movement to a new area followed the tracing of access routes by scouts. The community immediately moved to a new place to camp for the night while the scouts would find a new route for the next leg of the journey. Even in the midst of others setting camp, the scouts would continue their exploration further. In this way, the Punan Vuhang were able to travel a long distance over a short period by camping overnight at locations progressively closer to a new river system. In contrast, the method of gradual movement allowed the community to exploit an area for a longer time before moving. The gradual method was preferred because it assured the community a much greater degree of certainty regarding the availability of food. They only used the second way when there was pressure to leave a place in which they had long lived, such as

[1] The ethnohistory section describes the various watershed systems that they used to travel from the Balui headwaters into their present territory (see Map 6, page 54 and Map 8, page 56). Map 8 shows some major access routes between river systems.

when fleeing from hostile people who had come close to their territory. These two methods of moving were similar except that the time taken to complete a move differed.

The following is a description of how a hunter, or a group of scouts, explored the land as they went into a new area. For clarification, a list of terminology that the Punan Vuhang used to describe the landscape and their journey is found below (see page 38). Also included are diagrams. Figure 3 shows the concepts used to indicate traveling up a slope that contained short lengths of descending and ascending stretches (*berkatih*). Figure 4 shows the terminology used in the *nyeliou* method.

From their experience, the Punan Vuhang knew that across the other side of a mountain range lay another river or drainage system, sharing the same watershed. They traveled up the range (interfluve), crossed over at the top (divide) and then descended down the other side to the river below.[1]

At the starting point of a journey, a scout first would select a tributary that had a wide estuary (*laput*). The width showed it to be a main tributary that led to the top of the range (*tup paknyat*). Depending on the physical characteristics of the river, he could choose to begin exploration along the river or by starting overland. If the river was small and shallow, the person trekked upriver in the shallow riverbed ① (the numbers refer to Figure 2, page 39). Usually the stretch of a stream near the mouth of a big tributary contained many meandering bends (*tunyui*) that wandered over the landscape.

At the bend of a meander, he would walk overland (*kea ulong* ②) to the other portion of the river, thus bypassing the bend. Facing another meander, he crossed the river and again bypassed the overland loop. On a long bend that curved around a slope, he climbed the hillside to descend to the other bend, thus making the journey much shorter. On a straight section of the river (*luang tutu*), he merely walked in the riverbed until he faced a meander again.

When he reached a confluence of the stream that forked out into two equal sized streams (*palaput bongok* ③), he would ascend (*kea nyat* ④) the slope that rose between them. From there he ascended (*nakarong*) the slope (*bulukuk*) that became the main access route to reach the top of the hill (*lemakje bulukuk* ⑤). He went on until he came across obstacles that hindered his movement, such as a steep slope (*tanok terkaket*) or rocky surfaces (*tanok batu*). At that point he shifted his trekking by walking by the stream (if the stream had a gentle gradient to allow an easy walk) or would cross the slope on the other side of the valley to continue the climb. By this walking along the river and up the slope, he would go up all the way to the top of the ridge or range.

The slope that led to the ridge was not a stretch that led straight there, but contained short lengths of descending and ascending stretches (*berkatih*, See Figure 3). After going down the descending stretch (⑥ and ⑦), he continued to climb the rising slope, called *pun berkatih* ⑧ to differentiate it from the *bulukuk* — the stretch of slope that rose from the lowland by the river (*bulukuk pun berkatih* ⑤). On this stretch of higher slope, the scout

[1] Following Gabler et al. (1994:427), "[t]he higher lands separating one valley from the next are called **interfluves** or **interfluvial ridges**.... On an interfluve that separates two stream systems, there is an imaginary line called a **divide**. On one side of the divide all surface runoff flows toward one stream system, while on the other side runoff flows toward another stream system." [Emphasis original].

continued his walk up (*nakarong*) and down (*marun*). He maintained his uphill journey on the top of the slope (*lemakje bulukuk* or *pun nyat* ⑨) until he reached an elevation that was nearer or the same height as the top point of the range (10), and that formed the topmost part of the stream.[1]

Instead of continuing to climb from that place, which would entail a longer journey, he changed his direction and walked on the edge of the slope (*nyeliou koh*-10a) which was usually of a quite gentle gradient. As the ascending degree of slant had decreased considerably, the trekking was now more relaxed as he made for the head of the stream (*latung laut sungei*). This part of the range was also the section that met the head of the stream that flowed on the other side of the range, thus forming the watershed (*so'ak*) of both streams (11). On top of the range, the scout chose which of the two streams to follow to get down to the river below.

(1) He could cross the range (*nukuvok tanok*) and go directly (*kapen irab*) down. To do that, he first would explore the surrounding area to identify the best way to descend. Usually the top of a watershed (*latung laut sungei*) had a low gradient, thus allowing him to easily descend directly from the range — *marun tupuit koh vak*. Then he would walk down into the catchment or run-off area of the stream that has no running water except during torrential downpours.[2] The dry basin, called *bisirok* (12), eventually led down to the top part of the stream with flowing water. He continued his journey down the stream (*nyovu lanum*) until he faced obstacles such as a waterfall (*oven*) that made it difficult to continue downward. From that point he would walk on the side of the slope, at the same elevation (*nyeliou*) until he reached the top stretch of the declining slope, and then continued his descent (See Figures 3 and 4). In this way, he went down, walking on top of the slope when it provided a better way. He followed the stream when it had a gentle gradient, thus alternating the route until the confluence of the stream with the main river was reached.

(2) On the other hand, if the uppermost part of the stream had many obstacles, the scout descended down one of the two adjacent declining slopes. These slopes that cradled the stream provided a much better way to descend than walking on top of the range to search for another stream. Therefore, he headed toward the slope, walking on land that was of almost the same elevation as the headstream (*nakarong pun tanok*-11a). This method, called *nyeliou*, allowed him to reach the top stretch of the declining slope without need to climb further. From there onwards, he descended to the river below (*kuvuk koh sok bisirok*-12), alternating moving down along the stream or the slope, whenever he met obstacles.

While the scouts and hunters were exploring the land, they established a mental map that encompassed all the river systems and their tributaries, as well as access routes that criss-crossed the region. This mental map not only enabled them to travel all over the region, but also provided information for telling people how to go to a particular place. For example, when the Punan Vuhang were at the Laput Ase River on the Kajang River, a group of

[1] Continuing on the slope would lead them to the meeting point between the slope and the range, called *pun sap nyat bongok*, which was usually the higher part of the range. From there, if they had descended to the head of the stream, they would have wasted both time and energy.

[2] During normal rainfall, the runoff was intercepted by vegetation cover such as roots, absorbed by humus and filtered into the ground.

hunters wanted to hunt leaf-moneys for bezoar stones at the Lesong River of Kalimantan. They had never been there and the old men who had been there were too weak to undertake the long journey to go with them. Consequently, the old men recited the access routes (*pukulap nuo*) every night for an entire week until the young hunters had memorized the information. When the hunters returned from their hunting expedition, they affirmed the accuracy of the information which had been given to them, as they had reached the distant Lesong with ease. The surviving members who had participated in the hunting expedition are Nyinyang, Riyek, Kilat, Sabung, Langat and Rahut.

In creating a map, they identified distinctive features of the land as reference points (*talanak*) that led to different routes or to specific locations. Besides the features mentioned above, landmarks noted in the mental territorial map which had permanent distinguishing features were as follows:[1]

batu orun	boulders
pun kayu	a huge tree with a big buttress
batang	a fallen log of hardwood across or along a path
oven	waterfall
peluru	a steeply descending stretch of river where water flows smoothly on the river bed
lalit guat	exposed roots on the embankment of a river

As they traveled, the scouts looked for signs of resources – especially sago – that the community could harvest later. The community remained at a location for some time if a particular river system had abundant sago, such as, for example, the Peluan tributary at the Linau, the Betlaup-Sulen watershed at the Kajang, and the Kihan in Kalimantan. From areas lacking sago, like the Bahau River, they soon moved on.[2]

The Punan Vuhang also established access routes to evade pursuing enemies. They walked in shallow rivers with river beds which had been formed by pebbles, gravel and boulders so that their trekking would not leave any footprints that could be traced by enemies. Also, they preferred routes that were accessible to other escape routes leading to several places, to give them a range of choices. They would select a strategic spot for camping that was difficult to trace and access. If the camp location was discovered by enemies, it should be easy to defend, such as a slope surrounded by cliffs or a ravine. When they came across a cave, they explored its suitability as a hiding place, preferring one with a small mouth concealed by heavy growth. It should also have contained separate passageways to different exit points. Otherwise, if the enemies were to find them hiding in the cave, they would make a big fire and smoke out the Punan Vuhang.

---

[1] Due to the collective sum of memories of the elder members, mistakes were seldom made. Nonetheless, there were a few individuals who were especially skilled in tracing access routes to distant areas.

[2] However, they took note of the vegetation in the Bahau as comprising many fruit trees, including those that bore fruit which only wild boar consumed. Consequently, during the wild boar migration season, they could go there to hunt wild boar that had become extremely fat, eating the abundant fruit.

Terminology for Trekking Overland

laput	estuary of a tributary	*tup tanok*	peak of a hill or mountain
kabai	land on the downstream side of the tributary	*berkatih*	a stretch with descending and ascending gradient
kejuai	land on the opposite side – the upstream side of the tributary	*tukgah berkatih*	descending part of the slope, in relation to the river
nakarong	ascending	*matan berkatih*	lowest point of the *berkatih*
ke nyat	the place of intersection between the tributary and the river	*pun berkatih*	stretch of ascending slope
bulukuk	slope that rises to a higher slope	*marun*	descends
pun nyat	higher part of a slope that converges with a ridge or a range	*nukuvok*	crossing (verb); terms for crossing, e.g. the *matan berkatih* and the range
lemakje pun nyat	top stretch of a slope	*tanok terkaket*	very steep slope
pak nyat	ridge between two rivers, e.g. Kajang and Bukor	*kelikit*	changing direction of trekking
botak paknyat	range between two main river systems	*nyeliou*	trekking on the side of a slope
botak ayok	mountain range separating two major river systems	*so'ak*	Interfluves**,** the stretch of higher lands separating one valley from the next

Terminology for Trekking Along a Watercourse

laput	estuary	*kelipah*	to cross the river to the opposite bank
murik	toward upriver	*makeh ulong pak nyat*	to cross a slope and bypass a long stretch of river bend
tuvak	toward downriver	*palaput*	confluence of a side stream into the river
luang tutu	a considerable straight stretch of river	*palaput bongok*	confluence of the river that branches out to form two equal sized rivers
tunyui	a meandering part of the river	*bisirok*	lowest part of the valley, between slopes, that is usually dry
kea ulong	to bypass the meandering section by walking over land to the other section of the river	*latung laut sungei*	land on top of a river, below the range
nyovu	heading downriver		

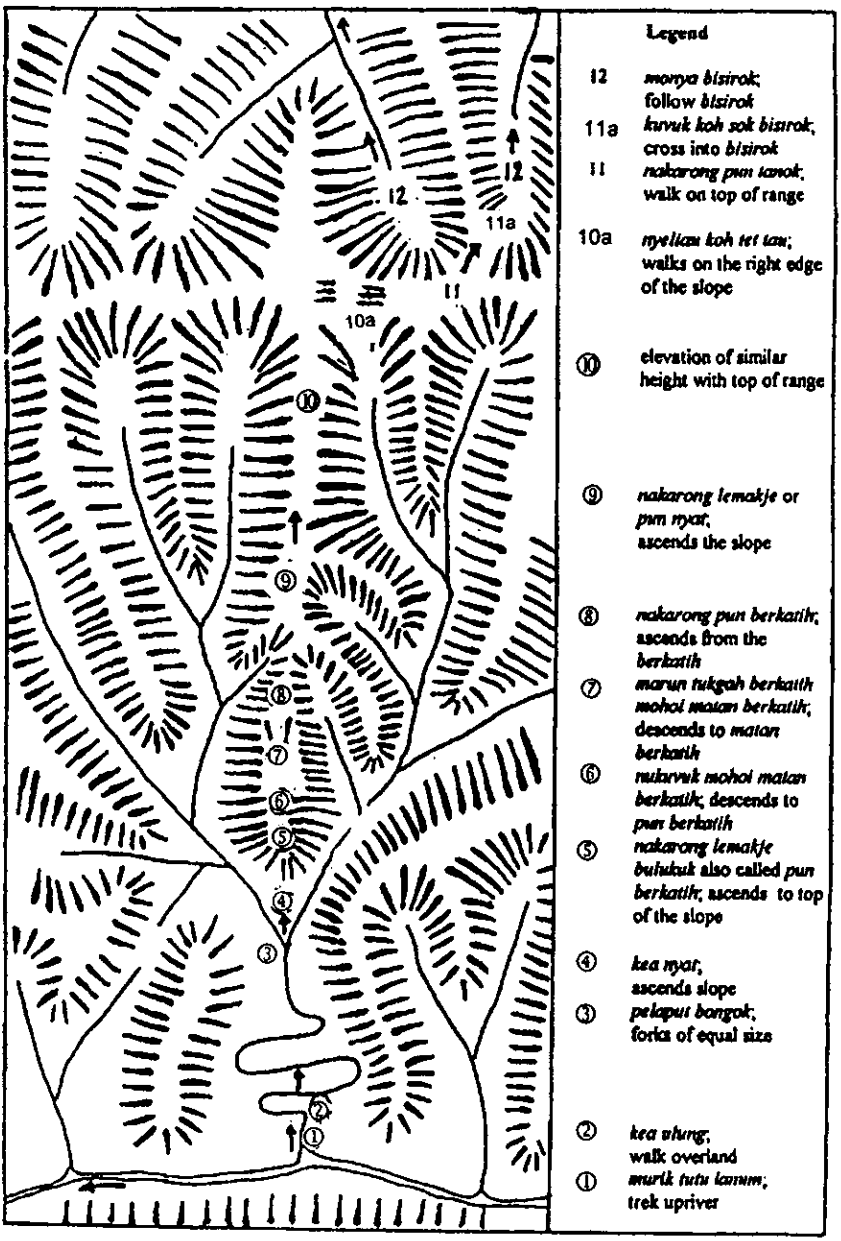


Figure 2: Exploration into a new area

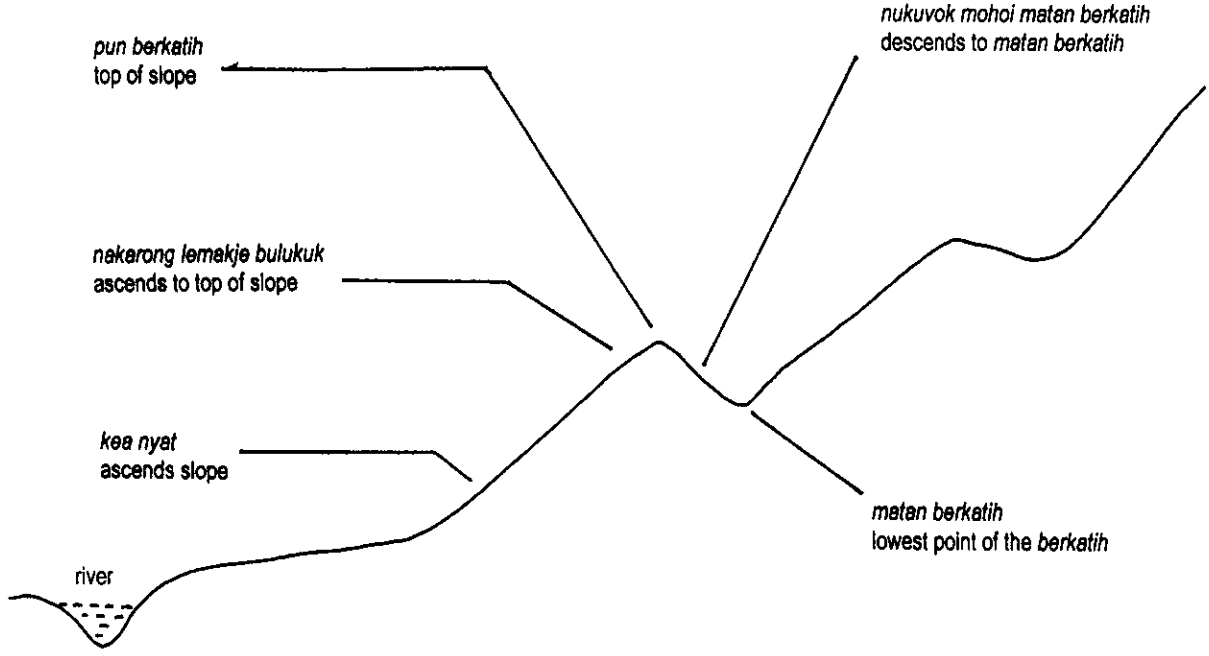


Figure 3: Descending and ascending stretches on a slope

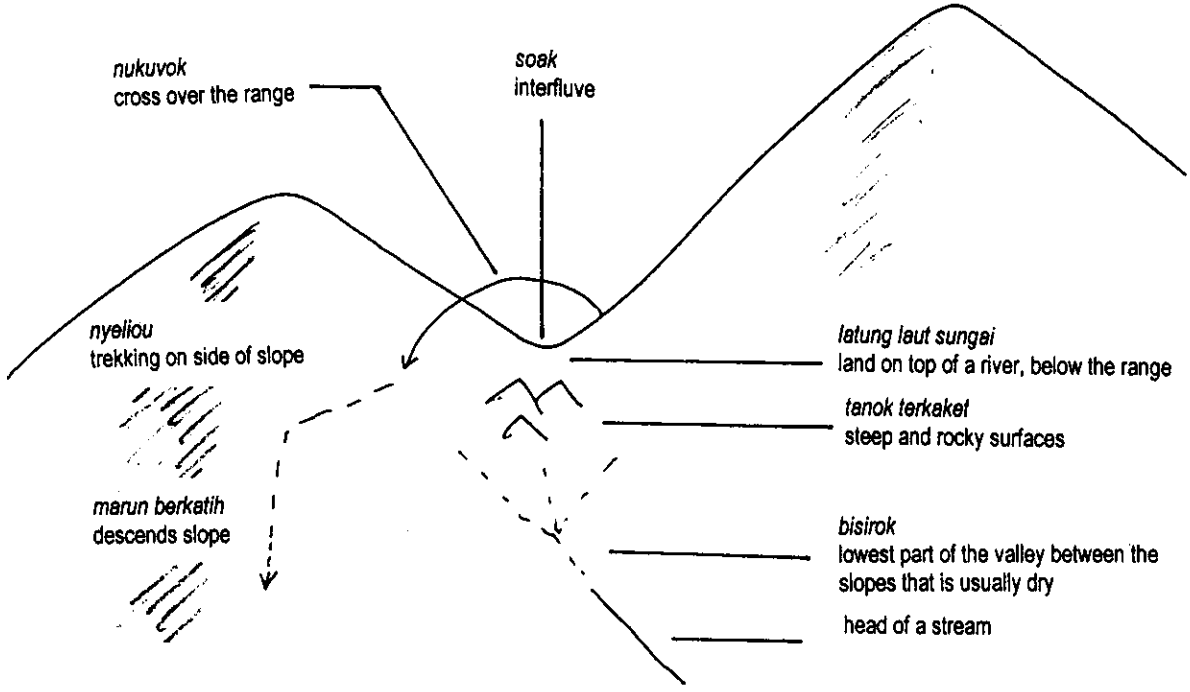


Figure 4: *Nyeliou* to the top stretch of slope during descent

Exploration in a New Area

Now we turn to how the Punan Vuhang explored a territory in detail to gather information on the physical layout of a new river system. Even though hunters might have already identified major sites where sago palms were present, they continued "mapping" out the entire river system. This detailed information facilitated a thorough utilization of minor resource locations.

Upon arrival at the river, the community immediately set up camp near a sago site that the scouts had discovered during the initial exploration.[1] The next day, various households set out for the main sago ground to process food. When the sago was abundant, the sago starch that they had newly acquired would last for a few days.

While the community was consuming this sago starch, the men explored the territory surrounding the camp to search for more sago and to establish hunting grounds. Each man systematically explored a specific area. Based on the demarcation of considerable-sized tributaries, each person explored an area situated within two parallel tributaries. From the camp, the explorer trekked up along the tributary by walking on top of a slope that led to the ridge. As the ridge lay parallel to the main river below, the ridge and the river confined his exploration area. Along the way, he looked for sago palms or a tree that monkeys would forage for foliage. He made marks by cutting vines and thorns and some undergrowth to help trace his way back. Otherwise, in unfamiliar territory, it would take more time for him to find his way back. To return, he used the same route that he had tracked earlier. When the distance he covered was significantly far, he turned around soon enough to reach camp before sunset.

Over the next one or two days, he would continue his travels along the top of the ridge to look for an average size watershed. This watershed would form a tributary's drainage system that would discharge rain water into the river below. Then, using the tributary as his landmark, he walked down the slopes towards the river. On arriving at the river bank, he walked along the river to go back to his camp, thus circling the area. Within that circle, he continued exploring the land and hunted at the same time. On each track that he made, he left marks to establish trails. Eventually he created a series of jungle paths that criss-crossed the entire area. He formed a mental map of the region and resource locations in it. For major landmarks, he memorized their features in his mental map. When the community would return to this location years later, he would not have to explore the site again by going through another tedious and time consuming exploratory procedure.

Similarly, other men systematically explored their areas to establish their own mental maps. Each man shared vital information on major landmarks, such as main tributaries and hill slopes that could serve as main routes. They also described important landmarks to indicate reference points. These marks included hill tops, the convergence of tributaries and ridges, waterfalls (*oven*), salt-licks (*tasapan*), huge hardwood trees, mature fruit trees and big

[1]Along the way, depending on the distance, the community required a few days to travel. They camped overnight as they traveled.

boulders (*batu orun*). All these routes and reference points became permanent features of their shared mental maps.

Through this method of exploration, memorization, and shared information, the Punan Vuhang established a detailed network of routes that covered the entire river system. Their knowledge not only covered the tributaries' names, but also included the side streams that constituted the watershed of each tributary. For example, the side streams of the Sengayan River are the Sik and Lavavang. They knew the access routes into the hinterland and the exact locations of major resources. The details of the landscape became so precise in their mental maps that hunters could even predict the fleeing direction of wild boar pursued by their hunting dogs.[1]

From the mental maps of these landscapes, the Punan Vuhang established major routes that connected the entire headwaters region of the Bahau, Kajang, Linau, Danum and Kihan Rivers. Up to the present day, despite never having ventured into those areas again, elderly informants claim they can still trace routes into the Danum River. For areas like the Kihan, the Linau and the Bahau, informants still retain a clear mental map of the main routes that lead there, even though the community has been settled permanently for the last two decades and has seldom returned to those places (see Brosius 1986:173-84) for a detailed description of the Penan perspective on the landscape).

Mobility within a River System

While the previous section dealt with general exploration of a new area and then exploring within it to establish resource grounds, this section describes mobility and resource utilization within a river system. Each time the community arrived at a new river valley, they would begin a new cycle of resource consumption. Not long after, they would again deplete the sources of food, especially sago, within the vicinity of the camp. Then the community moved to another campsite to continue obtaining food.

The decision to select a direction of movement and the location of campsites within a new river system required little consideration as the community naturally moved in one direction. Only the location of the second camp at the new area would require planning. The determining factor was deciding whether land upriver or downriver of the camp had better resources. As the hunters had already explored the valley to identify major resource sites, the choice of direction was not a difficult one to make. If the upriver areas showed better potential, they then moved in that direction in all future camp relocations; otherwise they moved downriver.

The community reached the next selected campsite within a day as the distance between the old site and the new camp was usually less than a day's walk. As such, there would be no need to camp overnight before reaching the next site. From the knowledge of the details of the landscape, the community easily determined the location of each camp site. It should have been in a spacious flat area to accommodate all the shelters, and near a stream with flowing water for cooking and washing. The campsite should also have been

[1]According to informants, when a wild boar fled from the hunting dogs, it would flee uphill. Eventually, due to its weight, it could not outrun the dogs and then would turn downhill, and heads towards a stream or a river.

near a source of abundant thatch leaves so that the people could easily gather leaves for the roofs of their shelters.

Before the day of moving, adult members first sent (*pulujuk*) their belongings ahead to the new campsite. These belongings included sago processing tools, clothes and sago starch, if the household still had much sago. The household head carried these belongings inside a sago filtering basket (*yut*) that he put inside a larger carrying basket (*kalong*). Upon arrival at the campsite, the members cleared the undergrowth, and cut trees with dead branches. These trees posed great danger as dead branches might break and fall on the camp. After clearing the undergrowth, the men collected tree trunks of about two inches in diameter (*kayu laroh*) for making the frames of the shelters (*lapo*). The women, meanwhile, went in groups to collect thatch leaves for the roofs (*ingoh*).[1] Depending on the structure of the shelters, they made several trips to collect these building materials. While the men constructed the shelters, the women wove and plaited the thatch leaves into a sheet of rainproof roofing. After a man completed the structure, he put the thatch cover over the roof. He then tied a few pieces of heavy wood on top of the leaves (*oram batang*) to keep the thatch from being blown away by any strong winds. After they completed the new shelters, the men and their spouses returned to the old campsite.

The Punan Vuhang constructed types of shelters based on the availability of sago at the campsite. When it was limited and the campground was level, they built simple lean-to huts (*lapo bono*) with platforms on the ground. On a slope, they would make a partially raised platform with one end resting on the ground (*lapo le*). The other roof end also lay on the ground. These simple huts (*lapo bono* and *lapo le*) required merely a few hours to build. If the food sources were abundant and sufficient to sustain the community for up to two or three months, they constructed more durable shelters (*lapo luek*), making a resting camp that allowed them to stay put for the entire duration of resource exploitation there. The *lapo luek* had elevated flooring covered with tree bark (*pupak*). It was larger than the two simple shelters and so had much more space in which to move around. The *lapo luek* consisted of two types, the *lapo porah*, with only one roof (*muvung*) and the *lapo jungap*, in which a lower portion of roof (*jungap kabai*) was connected to the main roof. With the extended roof, the *lapo jungap* was the more spacious of the two. These spacious and more complex shelters required a few days to build. Consequently, the men would build the *lapo bono* first and then, when they had acquired sufficient food, construct the *lapo luek.*

On the night before the community moved, the household heads and their spouses made plans for the next day, when the main group of community members would travel to the new campsite. Since they had already completed the shelters and taken their belongings ahead, the adult members did not have to travel immediately to the camp. Instead, they could do other things such as search for food along the way. If the starch for the household was in short supply, the household head and his spouse processed the sago they found near the traveling route. Sago processing on the day of departure was called *navan basak*. On the other hand, if the starch was sufficient for one or two day's consumption, the women

[1] The main leaves used were the *Licuala valida* Becc. (*silat*). Others included *Licuala orbicularis* (*no*); *Areca borneensis* (*butek livang*); Ganua spp. (*tagagau*, *kehep*, *tatap'up*); *Johannestysmannia* (*silat koyan*) and *Pinanga mirabilis* (*livang*).

traveled to the camp with the rest of the community. The men left at daybreak to go hunting. These hunters ventured into areas beyond the new campsite where few people had gone before. While hunting, they added new information about the landscape to their mental maps.

At daylight, the community left (*ngakat* or *buvut*). Households whose members could travel light (*ligang*) started first for the new campsite. Households with small children and old members left later as their pace was slow (*berkaku*). The by-then well-trodden path enabled the slower groups of travelers to move more easily.

When members of each group reached the camp, all able-bodied members performed their share of work to improve the condition of the shelters. Each woman and her children collected more thatch leaves to construct a wall (*liring*) to screen the shelter from people's peering eyes. Meanwhile, an old household member, such as the father-in-law (*boson le*) of the household head, cut out any bumps such as roots or stumps if the shelter was situated directly on the ground. These protruding roots would have been uncomfortable to sleep on. Then the old man collected dry wood (*kayu maram*) for firewood and built a fireplace (*puhuk pui*) for drying the firewood. If there was insufficient dry wood, he cut fresh wood from the trees that were suitable for firewood. After chopping a tree, he cut the trunk into portions and then split them into kindling. Following that, he placed the pieces of firewood inside the fireplace. Then the old man cut a tree and stripped its bark. He used these pieces of bark (*pupak*) to cover the ground to make a more comfortable sleeping place.

In the evening, the first man who returned made a fire. He took a dry rattan strip and rubbed it against a piece of dry wood. As the rubbing caused friction, it produced sparks. An old man assisted him by putting dry trunk fibers (*nyamu*) close to the friction point. When a spark flew out, the fibers ignited and then the old man gently blew on the little fire to create a bigger flame. Then he placed shavings of dry wood (*punguhut*) on the flame and this made a bigger fire. He next put small pieces of dry kindling over the fire and these became the foundation upon which to place the bigger pieces of firewood. After that, the fire was shared with all other households who came to ignite their firewood. After their piece of wood was burning well, they brought it back to their shelter. At nightfall, each household cooked their dinner. If they had fresh meat, they had a late dinner as meat required time to cook. Otherwise, they had a hearty meal of sago paste, the first meal at the new campsite.

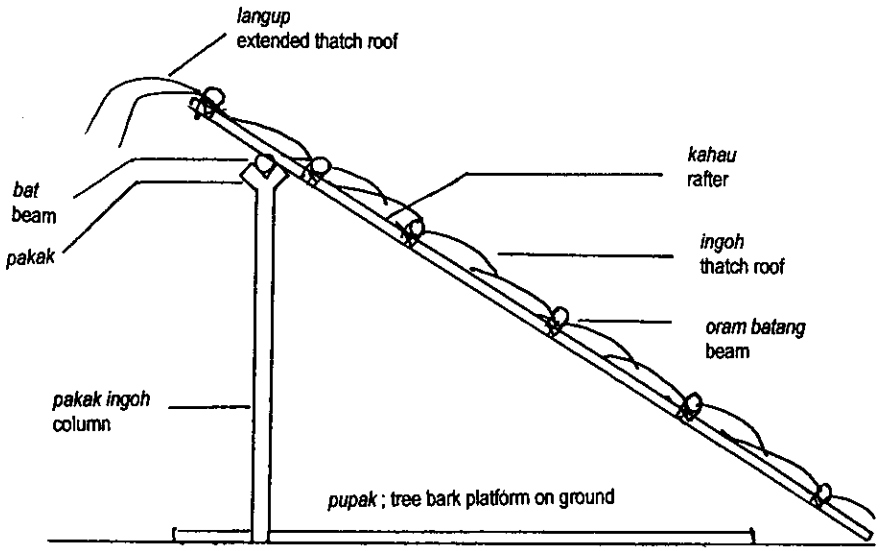


Figure 5: The *Lapo Bono* Lean-To Shelter

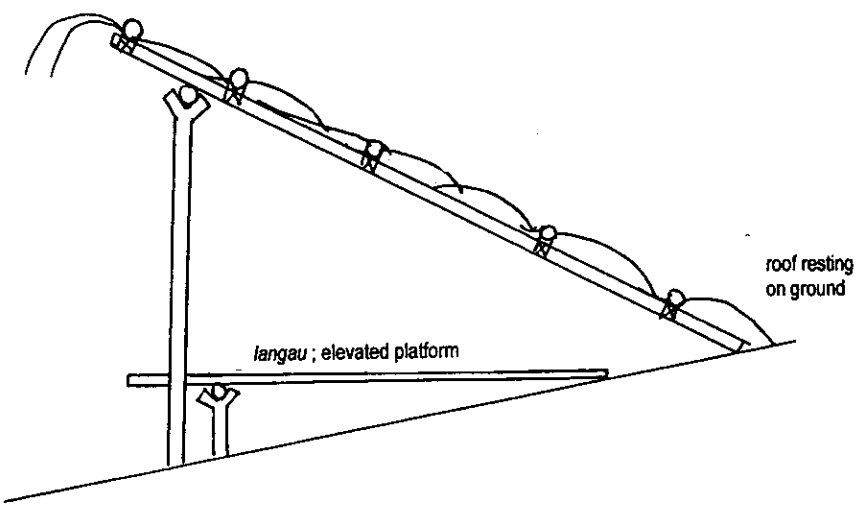


Figure 6: The *Lapo Le* Lean-To Shelter

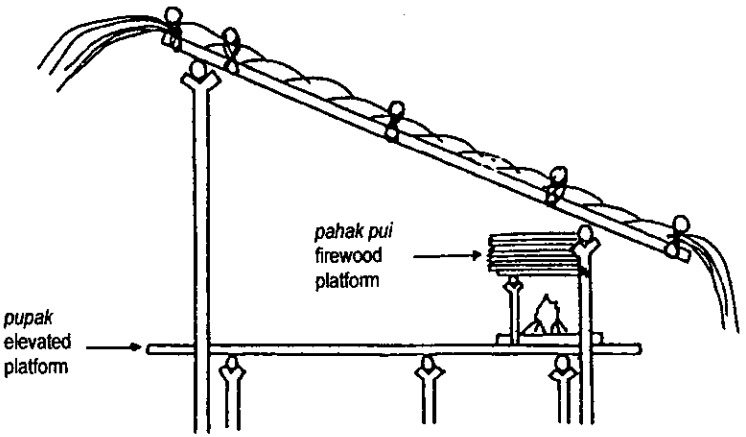


Figure 7: The *Lapo Porah* Shelter

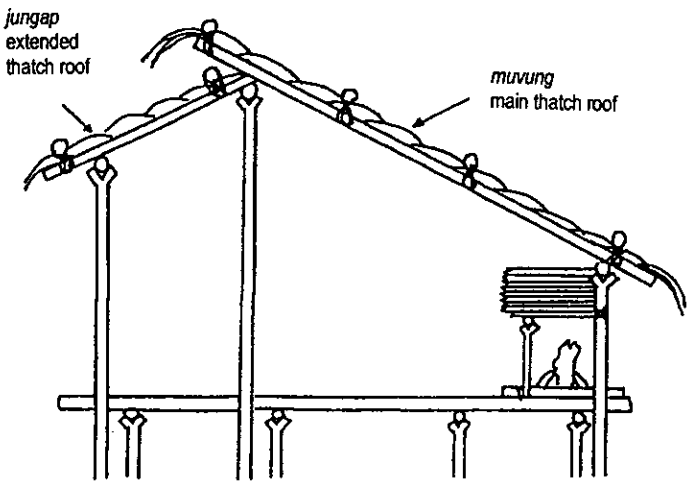


Figure 8: The *Lapo Jungap* Shelter

Mobility Based on Sago Consumption

During lean times when sago was the only main food, the Punan Vuhang generally harvested it in four stages. The first stage involved gathering sago close to the campsite, including from the surrounding areas on both sides of the main river, and the land along the tributary where they were camping. In the second stage, they exploited resources farther from the camp, including from sites up the tributary. Despite the considerable distance, they could still return on the same day (*puklik-ulik*). In the third stage, they harvested sago growing still farther away from the campsite. In abundant times during the fruit season, when fruit was plentiful, the community only needed to go to the third stage. As fruit was readily available, there was less need to pursue sago far from the campsite. In contrast, during lean times when sago was their sole food, they had to go to very distant sago clumps. Nonetheless, they did not have to camp overnight at these places and could still return by nightfall.

For the fourth stage, they harvested sago patches that occasionally required camping (*misan lug*) to process the sago. These sago patches consisted of isolated sago clumps found all over the forest, but usually in highlands at a considerable distance from the campsite. When they reached this stage, it was time for the community to break camp and move to a new place to begin another cycle of sago gathering.

To conclude this section on mobility, we have shown that the Punan Vuhang practiced "relocation" of the entire group to a new area in times of food depletion instead of "expeditions from a *permanent* base camp," as Sellato described (1994:132) [emphasis mine]. This description broadens our knowledge of mobility as briefly described by Sellato (1994:132):

> We have only a very limited understanding of the patterns of Punan movements. As Urquhart notes, the Punan are unable to explain the rules that dictate their relocations (1951:509). The essential for them is that they should always be within a reasonable distance of a grove of sago palms that they can exploit. Harrisson reports for one group a nomadic round lasting four months and covering a distance of fifty kilometers, using fifteen successive camping sites (1949:135). . . . Kedit speaks of more or less circular movements around a point central to the territory (1982:256). Brosius notes that a camp may be used for a time varying from a few days to six months (1986:176), according to availability of sago palms. My own data suggest an average period of residence in any given camp of two to four weeks (see also Harrisson 1949:136).

Oral History of Punan Vuhang Responses to Expansionist Shifting Cultivators

Having now examined in some detail the Punan Vuhang's former mobile economy to see how they had adapted to life in the forest, we shall now see how in the past they responded also to expansionary agriculturalists and external events by constantly moving away to avoid conflicts. Besides providing an ethnographic account of the past, the material that follows provides a background for the analyses of other sections in the dissertation.

The Early Period of Regional History

In the period from about the 16th to the 18th century, the people who would later have the greatest effect on the Punan Vuhang were still in their own ancestral homelands. The Kayan, who later dominated the Balui, were still in the Apau Kayan, at the headwaters of the Kayan River in Kalimantan. The Iban, who were to later expand into the Balui at the expense of the Kayan, were originally in the Kapuas region also in Kalimantan. According to oral history, the Iban had already begun to move into Sarawak by the middle of the sixteenth century (Pringle 1970:39 citing Sandin 1967). The Iban were then in the Batang Lupar region of what is today the Second Division of Sarawak. The Kayan migrated into Sarawak and populated the whole Balui by about 1800 (Rousseau 1974a:76). The Kayan then left the lower Balui when the Iban began to expand into the Balui. By 1862, the Iban had already spread into the Katibas (Pringle 1970:254). The Brooke administration pacified the Kayan with the 1863 Great Kayan Expedition and confined them to the headwaters of the Balui. By 1874, Iban began to populate the Baleh which the Kayan had earlier abandoned (Pringle 1970: 255).

This historical outline seems to fit well with Punan Vuhang oral history, as the first tension between the Punan Terkalet and outside people was with the Iban. This did not develop into large-scale conflict as the Punan were not pushed out of the area. It was only with the expansion of the Kayan into the Balui that the Punan Terkalet and the Punan Nuo were forced to leave the area. From this chronological description of Iban and Kayan expansion, it can be deduced that the Punan Terkalet and the Punan Nuo lived in their original homeland well before Kayan expansion in 1800, but when the Balui was populated by the dominant Kayan, the Punan could not challenge them and remain in the area. Consequently they fled and sought the protection of the Punan Vuhang who had a close relationship with the Kayan. From then on, an amalgam of Punan groups lived at the Balui headwaters for close to 100 years before they were forced to leave the area early in the twentieth century. Living under the protection of the Punan Vuhang, the amalgam of these groups since then has been known also as the Punan Vuhang.

Prehistory—Intra-Tribal Spirit Warfare

We shall first briefly consider why originally these Punan groups lived separately. Before the fusion, the names of the three Punan groups derived from their places of origin: the Punan Vuhang originated from Vuhang, or an island located in the Balui headwaters;[1] the Punan Nuo came from the Gaat tributary of the Baleh River—the tributary the Punan called Nuo; and the Punan Terkalet came from the Terkalet, a tributary of the Katibas River. All these areas, headwaters of the Balui, the Baleh and the Katibas tributaries, are separated by a considerable distance. However, they share a common watershed, thus placing the three Punan groups within a common physical domain. The Katibas is accessible to the Baleh through the Nuo or Gaat, a right hand tributary of the Baleh, as the two rivers share the

[1] 'Island' in Punan Vuhang is *vuhang*. Because their original home was believed to have been located near an island, they called themselves Punan Vuhang to differentiate themselves from the Punan Aput who originated from the Aput tributary. This is where the Kenyah Badeng Long Busang settlement is located today.

same watershed. From the Baleh, there are several series of river systems that share the same watersheds with those of the Balui headwaters. Although the distance from the lower Baleh to the Balui headwaters is great, the river systems provided access routes on waterways and tops of watersheds that criss-crossed the land and so allowed the Punan to meet one another.

Despite this commonality, the Punan Terkalet were on bad terms with the Punan Vuhang. According to my informants, both groups used spirits to attack each other since time immemorial. They said shamans from both sides had ordered their patron-spirits to kill members of the other group. At the height of their conflict, the Punan Terkalet were thought to have caused a major drought in the Punan Vuhang territory. This long drought caused many trees to wither, and dead branches fell on the Punan Vuhang. It was thought that the Punan Vuhang retaliated by causing a big flood that drowned many of their foes. Informants did not mention any other major conflicts. After these two serious incidents, informants thought it likely that hostility was so intense that the situation called for efforts to be made in peace-making to bring an end to it. A major Punan Vuhang shaman who had great powers eventually managed to do this. Nyuvuhan, the shaman, was said to have been assisted by patron-spirits of great influence. However, he did not misuse his power but, instead, through his kindness, he brought peace to the people. He eventually became the first leader among the Punan Vuhang and his descendants have since then provided leadership for the people (see page 164).

As the warfare was conducted by spirits, the conflict was confined to shamans. Consequently, the scope of warfare between the two peoples was limited and ordinary people were not involved. It was important that physical warfare by ordinary people had been averted because the distance separating the two groups was not far enough to prevent a cycle of retaliation.

Human-waged war was usually waged against a people who lived a great distance away to hinder their revenge. Thus, war parties would travel to distant locations that required many weeks trekking into enemy territories. Being far, it would be difficult for the victims to pursue the attackers. If wars were waged between people who lived close by, the war could become endless, it was thought.

Pre-Nineteenth Century—Convergence at the Balui Headwaters

While the Punan Terkalet were said to have waged spirit war with their own Punan people, informants mentioned that they also, in the physical world, assaulted Iban who lived across the watershed of the Katibas River. With the benefit of a map showing the details of the whole area (see Map 5), we can speculate that Kalimantan Iban of the Kapuas River, which shares the same watershed with the Katibas, were their enemies. The hostilities could have escalated when the Iban later migrated into Sarawak. Those living in the Skrang River, the Batang Lupar system and the surrounding rivers which also share the watershed with the Katibas could have been similarly involved. The clashes could have happened on both sides of the watershed, with war parties crossing the dividing mountain ranges to attack the other. These conflicts could have occurred during the sixteenth century when Iban crossed from the Kapuas River in Kalimantan to populate the area known today as the Second Division of Sarawak. Informants stressed that conflicts during this period were confined to fighting

between the Punan Terkalet and the Iban, as the latter had yet to expand into the Balui basin. It was the Punan Terkalet who first attacked the Iban, who then retaliated.[1]

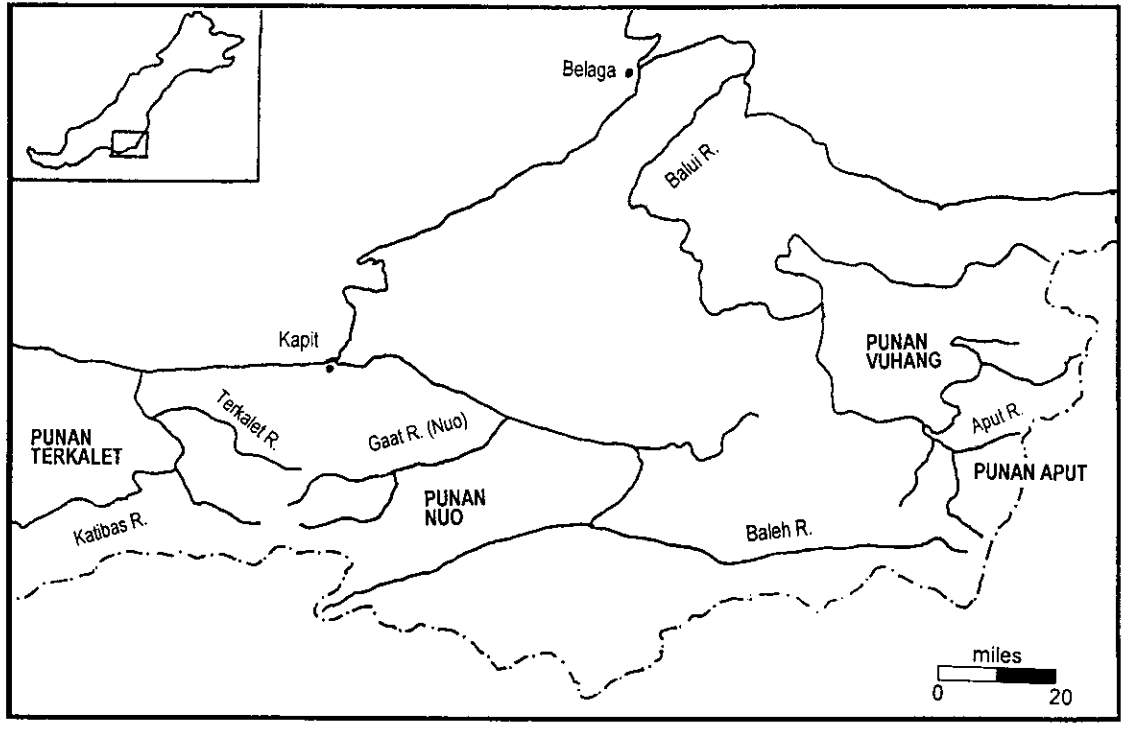
From the informants' account, I think it is possible that the Punan Terkalet lived for a long time in the Katibas without any intrusion by outsiders. When the expanding Iban infiltrated into Sarawak and then populated the Second Division, they could have crossed over to the Balui basin for various reasons, such as exploiting forest resources. Probably not knowing the aggressive nature of the Iban, the Punan Terkalet could have tried to repel Iban intrusion by becoming hostile towards them. The level of conflict might have been of low intensity as the hostility did not reach the extent that the Punan Terkalet were pushed out from the Katibas. They remained there until the arrival of the Kayan, another expansionist people from the Balui headwaters.

The oral history stated that over the years, the Kayan migrated down the Balui and resided further downriver than the Katibas tributary. As the Kayan intruded into the area of the Punan Nuo and the Punan Terkalet, conflict flared up between the immigrants and the original inhabitants. Although the Kayan, as an agrarian and riverine-based people, did not intrude far into the hinterland to exploit resources used by the nomadic people, they were under attack by the Punan. According to informants, the Punan even attacked Kayan who went to visit them on peaceful terms for trading. As a result of their hostility, the Kayan retaliated to avenge their dead. By virtue of Kayan political cohesion and strength in numbers, it seems likely to me, based on my study of the Kayan (Chan 1991), that they would have conducted systematic warfare to eliminate the Punan.

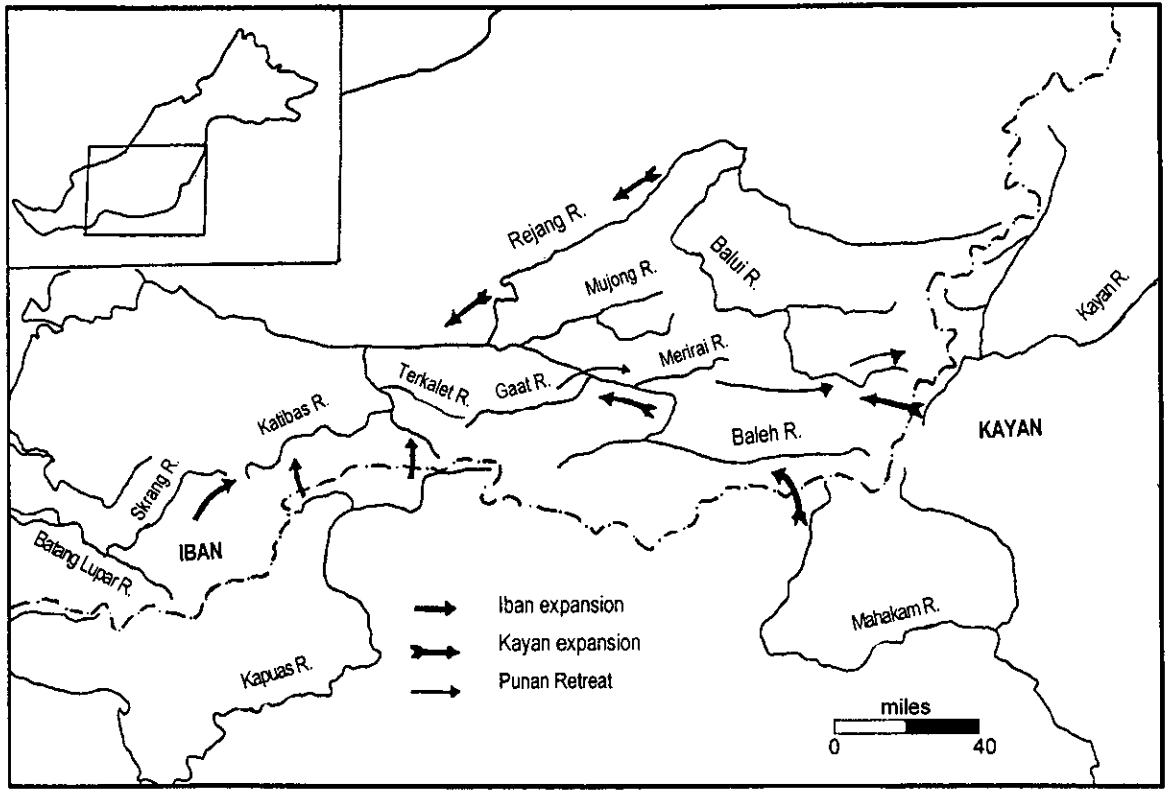
Over the years, the Punan Terkalet became sandwiched between the two hostile peoples, the Kayan at the Balui, and the Iban from the other side of the Katibas watershed. According to informants, the safest option open to the Punan Terkalet seemed to be to seek refuge with the Punan Vuhang, who had a close relationship with the Kayan. The Punan Terkalet planned to offer their women to the Punan Vuhang in marriage so that the Punan Vuhang would be bound to protect them. While under Punan Vuhang protection, the Punan Terkalet hoped that, bound by the threat of supernatural punishment, the Kayan would not attack them.[2]

[1] See Sellato (1994:136-142) for a review of defense of the territory and aggression among nomadic groups, and between them and farming peoples.

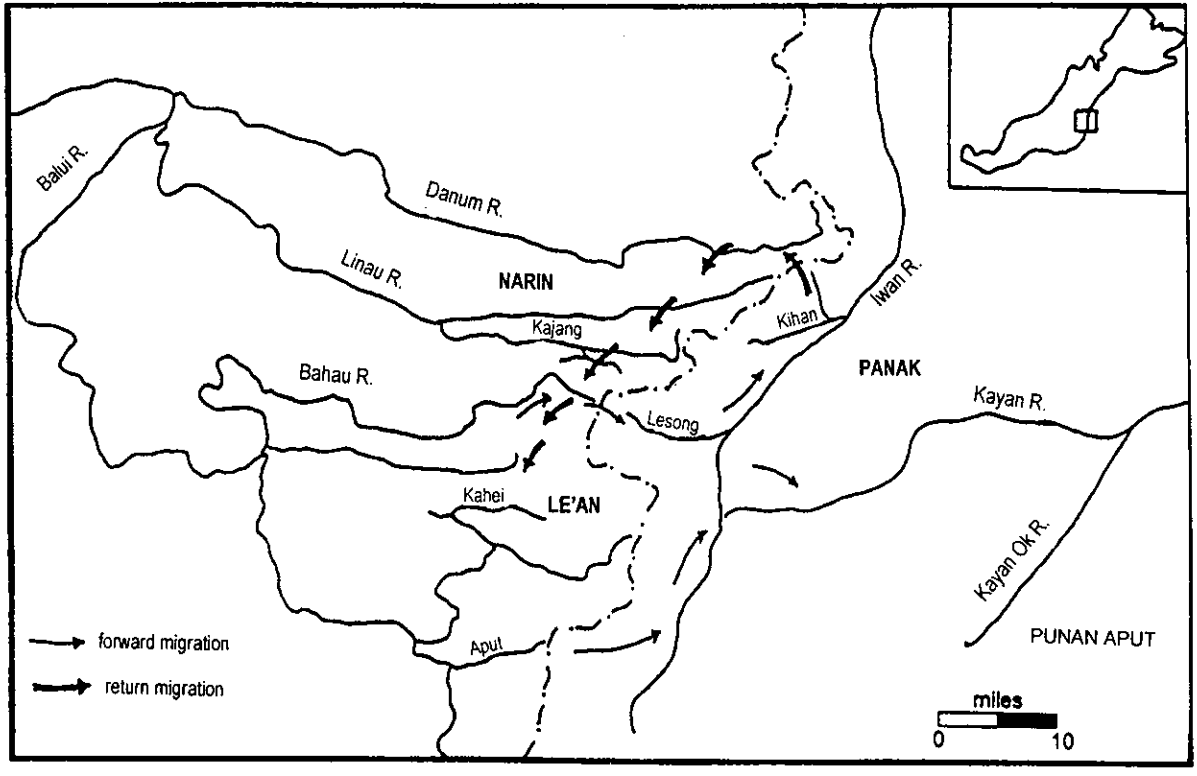
[2] A legend tells that the father of Lake' Dian Lulo Kasut, the paramount chief of the Kayan who unified all the Kayan, had a baby born with the umbilical cord wound round him. This was a bad omen of the worst kind, and the parents abandoned the baby in the forest. The Punan Vuhang found the newborn baby and despite the bad omen, adopted him and named him Sigoh Garing. Later Lake' Dian realized that Sigoh was the baby his parents had abandoned. Because of the Punan Vuhang's adoption of Sigoh, the two brothers made an oath that the Kayan and the Punan Vuhang led by Nyuvuhan would always be blood brothers. Breaking the vow would bring death and destruction to the community. Another version says that Sigoh Garing was the son of Lake' Dian Lulo Kasut who was abandoned for the same reason. Sigoh grew up to be a great warrior and a wise man. Knowing his origin, his real parents wanted to take him back but because they had abandoned him when he was a baby, they could not. Lake' Dian's brother Garing then adopted him, therefore the name Sigoh Garing followed the uncle's name.



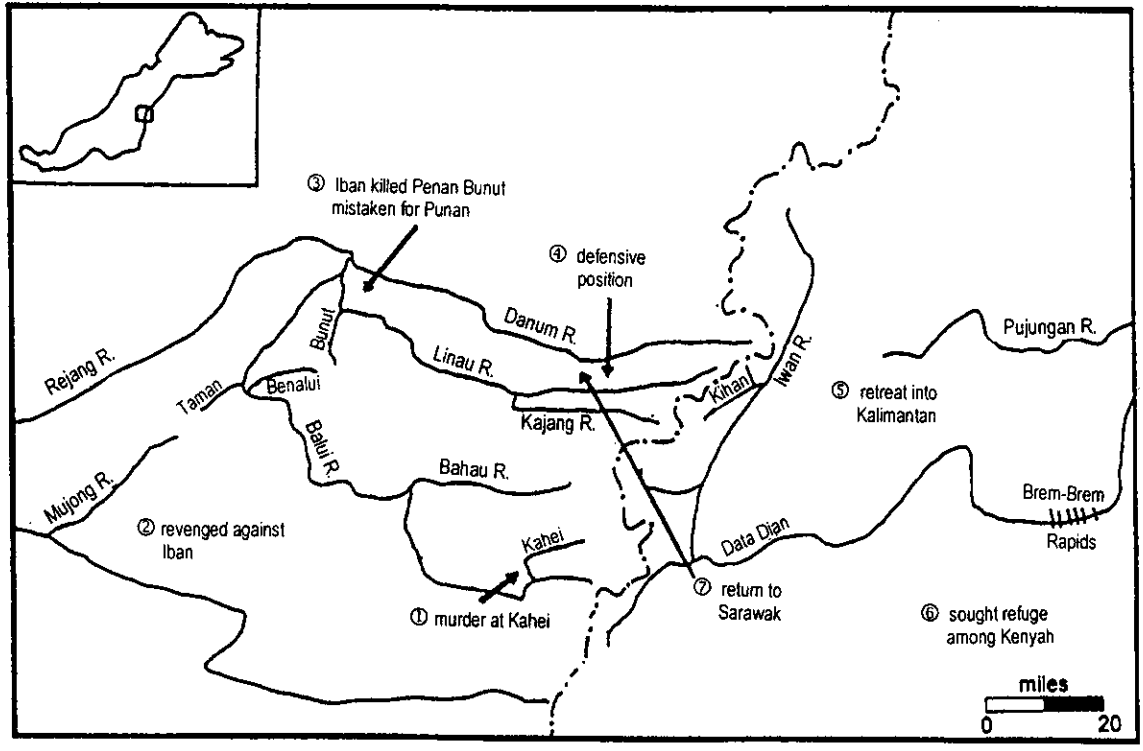
Map 4: Ancestral Areas of the Punan



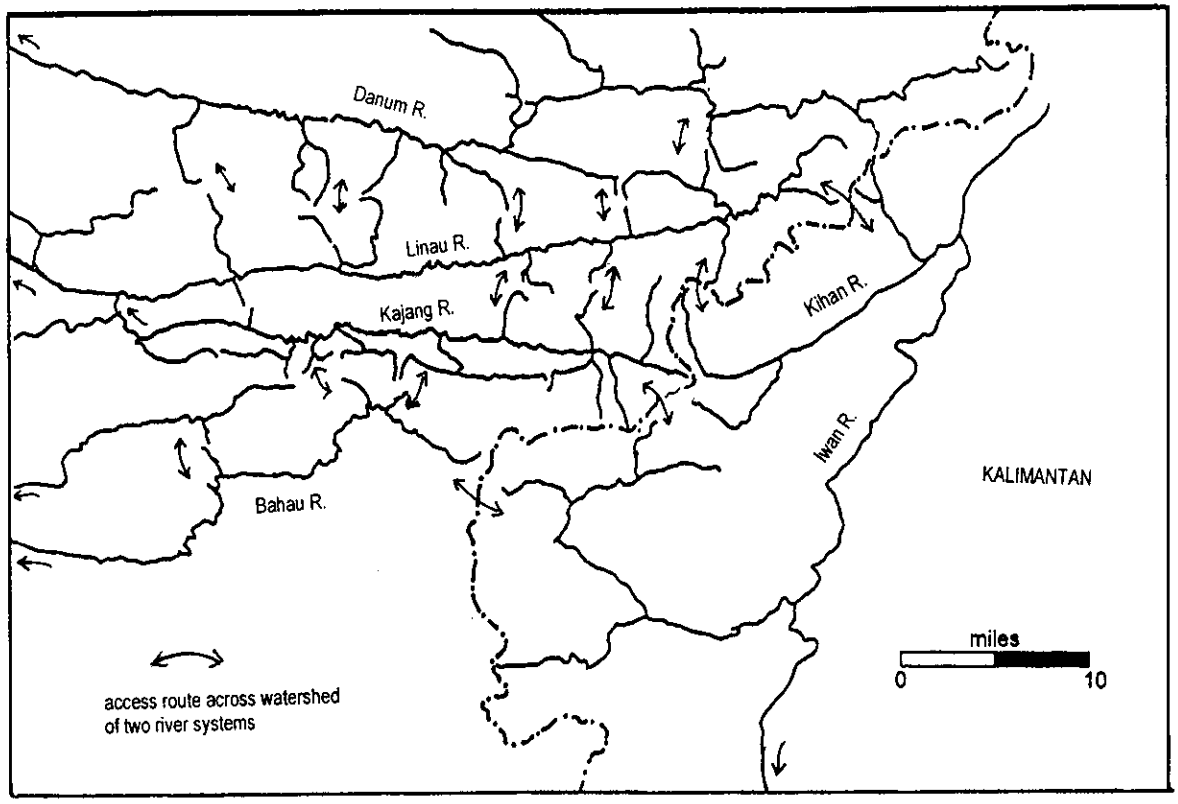
Map 5: Punan Terkalet and Punan Nuo Movement caused by Iban and Kayan Pressure



Map 6: Migration Out of the Upper Balui and Return



Map 7: Revenge and Retreat: Within Sarawak, into Kalimantan and Back



Map 8: Punan Vuhang Exploitation Grounds During Nomadic Times:
The Danum-Linau-Kajang-Kajang-Bahau-Kihan Basins

Nevertheless, as mentioned above, the Punan Terkalet had always been enemies of the Punan Vuhang due to the spirit warfare between their shamans. So, they resorted to drawing in the Punan Nuo, who had had no problems with the Punan Vuhang, to join them in seeking refuge with the Punan Vuhang. By seeking protection through the Punan Nuo, the Punan Terkalet were assured that the Punan Vuhang would not retaliate against them. To avoid retribution by the Kayan, they immediately moved up the Katibas and crossed overland into the Baleh to meet the Punan Nuo. They informed the Punan Nuo of Kayan-planned attacks against them, and informants mentioned that the Punan Nuo felt that they themselves would now become the target of Kayan revenge with the escape of the Punan Terkalet. Consequently, the Punan Nuo also fled with the Punan Terkalet to the Balui headwaters to seek refuge with the Punan Vuhang.

The fleeing Punan crossed overland by using the Merirai routes into the Balui headwaters (see Map 5). During the move, they were in great danger of being pursued, and so they did not stop to consume food during daylight. The dearth of sago palms made things even worse. Consequently, they had to depend on the *lisi*, a type of palm with very little starch. If they happened to find a *lisi* palm while on the run, they would immediately fell the tree and then process it. They would then resume their journey without immediately eating any food, and would only eat when they stopped for the night. The Punan called this flight from an enemy and only eating meals at nightfall, *sarap*.

After a few weeks, they reached the Balui headwaters and went on to meet the Punan Vuhang. In order to settle their conflict with the Punan Vuhang, the Punan Terkalet offered their unmarried women for marriage to the Punan Vuhang. The Punan Vuhang accepted the women and this strategy then compelled the Punan Vuhang to protect and defend their affinal kinsmen, the Punan Terkalet, from the Kayan. The Kayan on their part, as mentioned above, could not force the Punan Vuhang to fight the refugees because of their relationship with the Punan Vuhang through Lake' Dian and Sigoh Garing.

When the Kayan learned of the two Punan groups seeking refuge with the Punan Vuhang, they requested permission from the Punan Vuhang to take revenge against their enemies. The strategy by the Punan Terkalet succeeded as the Punan Vuhang refused to give them up. The Punan Vuhang were adamant that if the Kayan insisted, they would offer themselves to be killed on behalf of their affinal kinsmen. Consequently, the Kayan backed down and could not take revenge against their former enemies.

The offer of the Punan Vuhang to sacrifice themselves showed their commitment to protect the Punan Terkalet. This ended the hostilities between the Punan Terkalet and Punan Vuhang. Consequently, young men and women from these two groups voluntarily married each other and this further deepened the relationship. For a time, peace ensued, as the Punan groups lived in harmony with the Kayan people.

As the population increased, the Punan exploited all the tributaries of the Balui headwaters. These included, for example, the Pahung, Kunei, Tasak and the tributaries of the two Payau Rivers. Although it was a time of peace, this era was also marked by the total absence of wild boar for many years.[1] Over time, the Punan had hunted all the game in the

[1]The Punan attributed this to the killing of wild boar by the *otu laput lanum*. They believed that wild boar in their original spirit state were spirits that were enemies of the *otu laput lanum* spirits. In that state, the wild boar spirits always defeated their enemies. During the major fruiting season, the spirits turned into wild

forest and depleted the animal population. During that period, they had to rely on frogs as their sole protein-based food. Things were so bad they could barely catch one frog, and if they did, they would share the small frog with other people, giving only a quarter of a limb to each household. The little meat was cooked in sago paste to enhance the otherwise bland flavor of sago. According to informants, the Punan Vuhang had never experienced such prolonged periods of absence of wild boar that spanned over several major fruiting seasons.

After many years of peace, intertribal warfare returned. When the Kayan left the Apau Kayan, the area became devoid of human inhabitants. When the land had regenerated into mature forest, it was ready to be populated again. Over time, the Kenyah tribal people moved in and filled this vacuum. Some of these Kenyah groups, in particular the Badeng and the Bakong, were archenemies of the Punan Nuo and the Punan Terkalet.[1] The convergence of the Kenyah people into the Apau Kayan, which shared the same watershed system with the Balui brought the Punan into contact with their traditional archenemies again. According to informants, the Punan Vuhang did not want to be involved in warfare. However, when their affinal kinsmen became embroiled in the conflict, they had no option but to be drawn into the foray. They had to defend their affinal kinsmen when they were under attack and to participate in raids for revenge. Through time, the warfare became uncontrolled, with small groups of headhunters constantly on the prowl searching for victims in the forest.

Life became increasingly difficult as the Punan could not go out into the forest to search for food without encountering enemies. Frequently, hunters and food collectors failed to return, obviously killed by headhunters. Everyone was constantly on guard, carrying their shields, swords and blowpipes, looking out for enemies. At the same time, the Punan retaliated by conducting spirit warfare and sending their spirits to kill their enemies right in the heart of enemy territory. Informants said that this increased the hostilities and the Punan no longer felt safe to remain in the Balui headwaters.

Migration out of the Balui, Early Twentieth Century

The hostility between the various Punan groups and the agrarian Kenyah in the Apau Kayan caused the Punan Vuhang and Punan Aput to look for new places to live. As the Apau Kayan was the only region that was populated, the Punan Vuhang knew that the headwaters of the Kayan River, in particular the Iwan, were not inhabited. The Punan Aput, however, went directly to the Kayan Ok, a major tributary of the Kayan, and have remained there ever since. The Punan Vuhang entered the Iwan part of Kalimantan to survey the land before re-entering Sarawak. As the people explored the land, they surveyed the rivers for resources and identified places suitable for prolonged dwelling. While the main group led by

---

boar and migrated upriver to feed on the fruits. In this form, they were no match for the *otu laput lanum*, who easily killed them. It was during this era at the Balui headwaters that it was thought that the massive killings occurred and only a single wild boar could reach the headwaters over many decades. Over time, it was said that a spirit accompanied and protected the wild boar during migration. Ever since, although many small wild boar continued to be killed, incalculable numbers of wild boar managed to reach the headwaters during each major fruiting season.

[1]Informants did not mention the origin of these conflicts and the situation could have occurred too far back in time to be recalled in oral history. Alternatively, the more probable explanation was that the Kenyah were a warlike people, always on the move to conduct headhunting. They would include the Punan people as a target in their quest for human heads.

Le'an returned to the Balui, one other group chose the Kihan as their dwelling place and another turned to the Kajang.[1] It was after their return to the Balui that Le'an's group fell prey to Iban headhunters, an event that drastically changed Punan Vuhang history.

On their journey to explore the region, the Punan Vuhang traveled up the Kahei, a left hand tributary of the Balui and crossed over to the Bahau (see Map 6) which is a major tributary that meets the Lesong of Kalimantan. From the Bahau they crossed the watershed to the Lesong with its confluence meeting the Iwan, the headwater's tributary of the great Kayan River. They went down the Lesong and then traveled up the Iwan until they reached the Kihan, a left hand tributary of the Iwan that leads to the Sarawak side of Borneo. They trekked up the Kihan and went up the Sungai We to re-enter Sarawak through the Danum River, a tributary with its confluence at the middle section of the Balui. They journeyed down the Danum and walked up the Lahang stream to cross over into the Betiu and then into the Peluan. The Peluan is a tributary of the Linau which is another major tributary of the Balui that flows parallel with the Danum. At the Linau they crossed the river and went up the right hand tributary of the Poho and crossed the Linau-Kajang range into the Bangan, a left hand tributary of the Kajang. The Kajang is one of the longest tributaries of the Linau that flows parallel to the main Linau River. At the Kajang, they crossed the river to travel up the Bukor, the right hand tributary of the Kajang. From there they crossed the watershed to re-enter the Bahau which they had left earlier in their migration to enter Kalimantan. They traveled up the Bahau and crossed overland in the right hand direction and returned to the Kahei, thus making a huge circle to return to the remotest region of the Balui River.

Along the way, a band of Punan Vuhang led by Panak decided to stay at the Kihan as there was an abundance of sago there. This band had many members who had originated from the Punan Nuo, and Punan Terkalet who had been hostile towards the Kayan. Therefore, informants thought they wanted to stay as far as possible from their enemies to avoid retaliation. They found the Kihan basin to be sufficiently far from the Kayan communities settled along the Balui. Another group led by Narin decided to dwell in the lower reaches of the Kajang and the middle part of the Linau. Since Le'an's group members had mainly originated from the Punan Vuhang and had no quarrel with the Kayan and the Kenyah, they decided to return to the Balui headwaters. They lived at the headwaters while the lower part of the river was inhabited by the Kayan, and the Apau Kayan Plateau across the mountain range was populated by the Kenyah.

With this regional exploration, the Punan Vuhang spread all over the headwaters of the Balui and the Kihan. This separation of the nomadic people into subgroups covering a vast area allowed them to exploit extremely large resource bases. Each group had more than enough land that covered several river systems to exploit the forest resources. Le'an's group had the biggest land area covering the headwaters of the Vuhang, Aput, Kahei, Pahung, Kunei (Unei), the right and left tributaries of the Payau, Tasak and along the main Balui River. Narin's group had the Danum, Linau, Kajang and the headwaters of the Bahau for food exploitation. Panak's group inhabited the Kihan which had an abundance of sago. They also

[1] It is likely that Le'an's group was not directly involved in any intertribal warfare as they had no hostility towards other tribal people. Consequently, the other groups had to travel under this group's protection.

had the Iwan basin for further resource exploitation. The Punan Aput, as mentioned earlier, resided at the Kayan Ok in Kalimantan.[1]

Murder at the Kahei

The Punan Vuhang's hopes for having such a beneficent environment with vast resource bases were dashed when some Iban killed some Punan Vuhang at the Kahei. After returning to the Kahei, Le'an's group had found Iban men tapping gutta purcha in the forest. The Iban seemed genuine forest exploiters and tapped the rubber for a long period. They appeared harmless, friendly and peaceful and the Punan Vuhang eventually let down their guard to befriend them.

The Iban even held *servilak* swearing ceremonies to seal the friendship and bind them as blood-brothers. Most tribal people believed that with the *servilak* ritual the participants became blood-brothers who should help each other in times of need. Anyone who betrayed the friendship would be punished by the spirits with his family and kinsmen being exterminated by supernatural retaliation. With the *servilak*, the Punan Vuhang accepted the Iban into their community and regarded them as brothers and sons. One Iban man courted and slept with a Punan Vuhang girl. Believing they had a close relationship, the Punan Vuhang had no idea that the Iban were scheming to kill them when they were most vulnerable.

According to an informant, it was through this *nyalakoh,* or deceptive scheming, that the Iban had also killed the Lisum[2] and the Penan Bunut.[3] Working in the forest for gutta percha like real forest exploiters, people who met with these Iban eventually threw away their caution. The Iban were also sago exploiters and both my informant and I speculate that the hunter-gatherers probably developed an attachment for the people who ate the same food as they did. Friendship was established and the Iban were a jovial people who encouraged their hosts to dance and sing poetic songs. Ultimately, to overcome any anxiety, they held the swearing ceremony to seal their friendship. Due to this turn of events, the Punan Vuhang hosts put down their defense against any possible enemy attack. They feasted and danced

[1] This development fits with written accounts of central Borneo. By the turn of the century, these Punan groups were reported in Kalimantan. According to Rousseau (1990:217), van Walchren (1907:797) reported that the Punan Vuhang (Punan Busang) lived in the upper reaches of the Iwan and the Punan Aput between the Kayan and Kayan Ok. When Tillema visited the Apau Kayan in 1931-3, he made a special trip to the Punan Musang (most likely Panak's group who remained in the Kihan), who were "found on a tributary of the Iwan—a left hand tributary of the Kayan" (Tillema 1938/1989:123).

[2] This corresponds to a *Sarawak Gazette* report: "This act [of killing Lisum] was committed by a party of mischievous young Dyaks [Iban] who were supposed to have been on a gutta hunting expedition" (1907:135).

[3] Concerning the massacre of the Penan Bunut, the Penan people until today had not been aware of this deception. During my study with the Penan Talun who are descendants of the Penan Bunut, this event was mentioned in their oral history. The Penan were led to believe that it was the preference for human heads over forest produce that eventually tempted the Iban to kill the Penan. The Iban leader tried to dissuade his followers but they insisted upon carrying out the plot despite the supernatural punishment believed to result from "back-stabbing" their hosts (Chan 1995:24-25). For the Saribas Iban, it is believed to be a source of *busong* or ill-fortune to kill someone with whom there is no animosity. On the other hand, deception is much admired (Clifford Sather, personal communication).

through the night. They then fell into a deep sleep, exhausted from the night's celebrating. It was then that the victims were slaughtered by the Iban.

It was through this scheming that the Punan Vuhang were killed at the Kahei. On the night of the attack, the Punan Vuhang were holding a *nyangen* ritual—a singing session in praise of the spirits, that the people enjoyed. This singing went on until the small hours of the morning. Apparently, one of the assistant-spirits to the performing female shaman had warned her of the plot to kill them but she had ignored the warning. The spirit felt slighted and did not warn the shaman again. At dawn, when most of the Punan Vuhang were deep asleep, the Iban attacked and killed fourteen of them.

There were three groups of survivors, each having their own tale to tell. The saddest story was that of the Iban man who had slept with the Punan Vuhang girl. Kana, the Iban who slept with Nalim, had on the eve of the attack managed to persuade her household members to camp away to process sago. Having loyalties to both sides, he could not betray his own people and reveal the attack. Nor could he, having slept with his lover and been treated so well by her family, allow them to become victims to his own people's scheming. So he saved them by persuading them to camp elsewhere. Consequently this group was safe from the attack. Towards dawn, Kana revealed the plot and tearfully explained that it was Grinang, their leader, who had schemed and insisted that they take the Punan heads as trophies. The rest had not wanted to go along with this because of their close relationship with their hosts. Grinang scolded them for having put aside their primary objective of obtaining human heads through deceitful strategies and for not obeying his orders as their war leader. He further warned that if they refused to follow suit, he would have to kill one of the followers to compensate for his loss of a victim's head. Having no choice, the other Iban had to follow Grinang's order. When this plot was revealed by Kana, it was too late to inform the rest of the Punan Vuhang, for the killings had already taken place. Realizing Kana's predicament and being grateful for his effort in saving them, Nalim's brothers helped him to escape for they knew the Punan Vuhang would have killed him in revenge for the attack.

The second group of survivors were Donga's family. Donga had had the habit of waking up before dawn to eat breakfast. This had been the Punans' practice as a measure to ward off enemy attacks. Being awake, they could be alert to defend themselves if they were under attack. Having eaten in the morning, they would then have the energy to fight and flee for a whole day. As Donga was awake, he was able to fend off the attack and his household survived. Because of his precautions and ability to defend his family, his name lived on even among the Iban. An informant who had listened to Iban tales found that Donga was mentioned in their stories as the Punan who defended his family. The Iban respected him for being such a courageous hero even though they lost potential heads by failing to kill him and his family.

The third story involves that of Abok surviving his Iban blood-brother's attack. Abok had a pain in his hand and asked Selaku, his *servilak* or blood-brother, whether he had any remedy for it. Selaku said he had and would bring it for him the next day. At dawn Selaku appeared to kill Abok and his family, but Abok happened to be awake. Because of his hand pain, he could not fight back, but escaped by jumping down a waterfall.[1] From the top of the

[1] The Punan Vuhang were camped at the top of a waterfall along the Kahei River.

waterfall, Selaku flung a spear toward Abok but missed him. He jumped down to continue attacking Abok. However, Abok managed to retrieve the spear and thrust the spear into his opponent's thigh. When the opponent succumbed, Abok killed him. Two other Iban men followed suit and Abok defended himself by flinging the spear at them. The two tried to avoid being hit, and instantly Abok fled under cover of the night.

Although the attack was a complete surprise, the Iban also suffered casualties. However, the death of fourteen persons was an overwhelming loss for the Punan Vuhang. The surviving Punan Vuhang joined their kinsmen who were camped at the Peluan River and they decided to take revenge against the Iban.

Revenge and Retreat into Kalimantan

A group of men took off downriver to take revenge against their enemies. From Kana who had slept with Nalim, they knew the attackers were from the Baleh, a tributary of the Balui, which had been inhabited by Iban. The war party went down to Long Linau where the Kayan were congregated. They told the Kayan of their intention and the massacre of their kinsmen was reported to the Brooke government by the Kayan. The Brooke administration reacted by launching a punitive expedition against the Gaat Iban. These Iban were in a rebellious mood and they were suspected of being the culprits who had killed the Punan Vuhang. I speculate that it was probably their headhunting celebration that revealed the identity of the attackers. The Brooke force, assisted by the Punan Vuhang and 200 soldiers, punished the Gaat Iban.[1] The expedition was a success but the Punan Vuhang felt the victory belonged to the Brookes and decided to continue taking revenge themselves.

They returned to Long Linau and requested the Uma Jalan Kayan to bring them by boat up the Balui to enter Iban country. They were transported to the Taman, the true left hand tributary of the Balui that leads to Iban country (see Map 7). Reaching the Taman, the Punan Vuhang trekked by themselves, traversing up the Taman to cross overland into the Mujong. They came across an Iban family staying in a farmhouse, killed four of them and took their heads. They retreated to the Balui and were brought back by the Uma Jalan Kayan to Long Linau.

At Long Linau, they celebrated their success and gave two heads to their hosts for providing them assistance. It was a major feast as the Linau area was a place where all Kayan, Lahanan and Kenyah communities congregated in defense against Iban attack. After the celebration, the Kayan brought them back to the upper Linau by boat and from there they walked back by themselves.

Meanwhile the Iban retaliated. By noting the pattern of attack and retreat, they identified the killing as the work of Punan. The Iban went overland into the Balui, crossed the river and trekked upstream into the Benalui until they came to the Bunut, a tributary of the

[1] This punitive expedition was reported in the *Sarawak Gazette* (1916:78), but there was no mention of Punan Vuhang involvement. According to an informant, the Punan Vuhang people participated in the expedition. The event was, by no means, an isolated incident. At the turn of the twentieth century, the *Sarawak Gazette* recorded headhunting expeditions between Iban and other tribal peoples of the Kayan, Kenyah, Kejaman and others (in chronological order, Hose 1894:207-208; Pearce 1894:64; 1895a:178-179, 1895b:194-195; 1896a:23, 1896b:42; Deshon 1900:227; Cunynghame 1902a:12; 1902b:76; Kirpatrick 1905:92; Hose 1907:59; Page-Turner 1908a:27; 1908b:88; *Sarawak Gazette* 1908:88, 1913:188, Applin 1918, Gifford 1919:312-313).

Linau. Coming across unsuspecting Penan Bunut, they used the *nyalakoh* friendship-betrayal scheme and killed some of their host after staying with them under the pretext of collecting gutta percha (see footnote 3 page 60). Despite having several Penan Bunut heads, the Iban were not satisfied and went to the Linau to seek revenge against the Punan Vuhang who had killed their kinsmen.

When the Punan Vuhang heard of the Iban attack on the other Penan people, they went further up the headwaters into the Peluan tributary and camped on top of a ridge to avoid detection. They constructed fences for a defensive camp. Scouts spotted Iban continuing their pursuit but the Punan Vuhang could not be detected and remained in the hideout for a long period until they depleted the surrounding food resources. They then retreated further upriver and decided to seek refuge inside Dutch Kalimantan.

They trekked up the Linau and traversed through the true left hand tributary of the Kelawit to cross overland into the Kihan, inside Kalimantan. Across the other side of the watershed, they gathered and preserved food in preparation for a long journey into the Apau Kayan. They went down the Kihan and met Panak's group who had decided to flee with the fugitives. This group suspected that they would become the target of the Iban if they remained where they were. They went further downstream along the Kihan and entered into the Iwan, the headwaters of the Kayan River. As they fled, the Iban pursued them, but three of the Iban were intercepted and killed by some Kenyah Lapo Tapu men. Despite that, the Iban continued to chase them, but twelve more Iban were killed by the Kenyah. These killings posed greater dangers to the Punan Vuhang as the Iban were even more aggrieved and had even higher motivation to seek revenge. As a result, the Punan Vuhang decided to go into the Apau Kayan to seek protection with the Kenyah. The Punan Vuhang used the Kenyah as a buffer against the Iban so that their enemies could not penetrate the Kenyah defensive line to pursue them. As they further retreated, the fugitives went up the Suhen, the true left hand tributary of the Iwan, and went over the watershed that divides the Suhen and the Panah. The fleeing people traveled down the Panah, changed course and entered the Lupuwon Iman where they continued their journey down the Nyelunuk. They crossed the Bakong and went downriver into the Besahan headwaters. From there, they pushed on down the Pujungan until they reached Long Kayan. At the great Kayan River, they used the Iban tributary to bypass a long bend of the river that consisted of the impassable Brem-Brem Rapids, and reached the area downriver of Kenyah country.

The Kenyah were enemies of the Iban and had had clashes with them.[1] The Iban were on the other side of the mountain range at the Balui headwaters in Sarawak and needed to bypass the Kenyah people in Dutch Kalimantan in order to reach the Punan Vuhang. From the Linau-Kajang route, the Iban also had to encounter Kenyah staying at the Pujungan region before they could reach the Kayan river. With buffers on both sides of the river, the Punan felt safe under Kenyah protection.

[1] Pringle reported that at the turn of the century, the Iban repeatedly raided the Kenyah who were living in Dutch Borneo (1970:261).

Consequently the Punan Vuhang sought refuge among the Kenyah and stayed at Data Dian.[1] They remained for about five years until there was no more news of Iban forays into Kalimantan to attack the Kenyah. As the hostile situation at the Balui had calmed down, the Punan Vuhang wanted to return to Sarawak, for they missed their homeland.

Return to Sarawak

The Punan Vuhang used the same route by which they had come to the Apau Kayan to return to Sarawak, except, instead of going by way of the Kihan, they went further up the Iwan and went directly into the Danum through the Dang watershed. They went downstream and camped at Laput Pakeng. Upon reaching Sarawak, the Punan Vuhang craved tobacco and eight young men walked downriver for a month to reach Laput Mavu at the Murum, the downriver stretch of the Danum.[2] There, they saw boatloads of people paddling downstream to transport rattan. Recognizing the leader of the group as Lake' Lewih, headman of Uma Nyaving at Long Linau, the Punan Vuhang approached him. Lake' Lewih was surprised to see the Punan Vuhang, for he had recently heard they were still in the Apau Kayan. Lake' Lewih told them of the new peace at the Balui and advised their leader to go to Belaga to meet the Brooke Administration. He then gave the Punan Vuhang some rattan vines that his slaves had collected. They parted, and the Punan Vuhang returned to inform their people of the new peace and Lake' Lewih went on to Belaga to inform the government of the return of the Punan Vuhang into Sarawak.

Upon their return, they informed another group of Punan Vuhang led by Donga of the peaceful conditions in Sarawak. For safety, this group had remained in the Pujungan basin. Consequently, Donga's group also returned to Sarawak, but another group led by Tut wanted to remain in the Kihan because of its abundance of sago and fish.[3] As the Punan Vuhang congregated at the Linau headwaters, a group of men led by Bakup went downriver to Belaga to meet a Brooke official named Tuan Brian. Upon reaching the Belaga post, the officer had gone to Sibu (then known as Busang Malin) and the Punan Vuhang were requested to go to Sibu to meet him. According to informants, in Sibu, Brian told Bakup of the Iban's intention to have peace and that he planned to bring Bakup to the Baleh to test the Iban's sincerity. Since Bakup was one of the Punan Vuhang who had killed Iban at Mujong, he might become the target of their revenge as the Iban had not yet avenged their dead. If Bakup were to be killed, Tuan Brian assured him that the Brooke government would seek revenge.

They left Sibu for Gaat, a true left hand tributary of the Baleh. Some Iban who had joined the rebellion against Brooke rule had remained there. At the Gaat, they made a

[1] At Data Dian, some Punan men went down the almost impassable Brem-Brem rapids and found an extremely lethal *takjem* blowpipe poison. The poison, called *takjem tipluk,* caused the instant death of a victim.

[2] The Murum and the Danum are the same river. The lower portion of the river that consists of many stretches of impassable rapids and waterfalls is called the Murum. The upriver stretch which is meandering and gentle is called the Danum.

[3] Whittier (1974:44) reported that this Punan group who were called by the names of Punan Musang and Punan Busang lived at Long Ikeng of the Iwan River. Long Ikeng is the official name while the Punan call it Long Kihan. In the 1970 census, the population was 98 persons.

peace-swearing ceremony—*petutong mek pelar morip*—in which many pigs and chickens were slaughtered. The Punan Vuhang believed the slaughtering of the animals was a show of strength of Brooke power, and a commitment to kill enemies who went against the government.

Bakup was appointed *Penghulu* for his role in offering himself to test the Iban's sincerity. His role was to become an official representative of the Brooke government in Punan country and to guard the Linau basin from Iban intrusion. Since Bakup was involved in the peace-making ceremony at Gaat, there was no need for him to be involved in further peace-making ceremonies. He was then sent back to the Linau with his men. According to Luhat Tehin, my main informant on oral history, the Gaat Accord was instrumental in inspiring the Brooke government to arrange the 1924 Peace Making Ceremony in Kapit.

However, a drastic event occurred before the main peace-making ceremony. The Iban, in learning that the Punan Vuhang had returned to Sarawak, could not resist taking revenge against them. In violation of their peace accord with Bakup and the Brooke government, a large group of Iban went up the Linau (116 individuals according to the *Sarawak Gazette* (Owen 1924:168-9). According to Luhat, they posed as gutta percha collectors, and schemed to attack the other Punan Vuhang group living in the Kihan. Luhat Tehin and other informants believed that the Iban had developed and improved on their friendship-betrayal ploy by bringing along women and children. The presence of the women and children relaxed the defenses of people who came across them. Nonetheless, the Punan Vuhang remained cautious and camped up the mountain ridge between the Linau and Kajang. The Iban scheme was to eventually let the group with the women and children travel behind the front group that consisted of the war party. At the appointed time of attack, as the war party moved to attack, the second group with the women and children would quickly return by a different route to avoid detection. Fortunately, Penghulu Grinang, a government-appointed penghulu, got wind of the plot, as the dissident Iban had used an overland route to travel into the Balui instead of using the customary boats, in order to go undetected by the government. He promptly informed the Brooke government and Tuan "Tuninghum" and Tuan "Belayar" then led a pacifying party to force the dissidents back.[1] The party comprised a force led by three Iban Penghulu—Grinang, Jugah and Sibat, the two Kayan penghulu—Akam Dian and Akam Avun, and Bakup, the Punan penghulu.

The government party went right to the Linau headwaters at the Kajang and intercepted the dissident Iban war party which was on its way into Kihan. The defiant Iban were brought downriver to meet the Brooke representatives at Laput Kebuhor, just upriver from where the Punan Vuhang's settlement is now located. In the meeting, the Iban were ordered to return to Kapit for further deliberation. The ringleaders were later fined and jailed in Kapit for breaking the law that prohibited Iban from going into the Balui headwaters.[2] With

[1] This event was reported in the *Sarawak Gazette* (Owen 1924:168-9).

[2] Pringle (1970:264) reported that the Iban were not allowed to settle above the Pila tributary, a short distance above Kapit. After that was the territory inhabited by upriver peoples. He also reported that the Second Rajah set markers in critical Iban rivers, beyond which settlement was prohibited. The Rajah also situated the most trusted Iban leader in the neighborhood nearest the marker where the leader enjoyed access to upriver farmlands. The leader was to ensure that no one else ventured beyond the markers (1970:279).

these events, peace was sustained as every party, including the Iban, aligned with the Brookes and cooperated to maintain peace.

The Kapit Peace Making Ceremony was held in 1924 following a similar ceremony in Long Nawang, Kalimantan. All tribal chieftains in Sarawak and Kalimantan who had been involved in warfare against the Iban, together with Brooke and Dutch officials, participated in the event. After this, peace was finally achieved for both Sarawak and Kalimantan, and the Punan Vuhang were able to move about a large area to hunt and gather food (see Map 8, page 56).

With peace, the Balui region began to be opened up for people to move freely, and trade flourished. As headhunting, heroism and prowess in warfare no longer were avenues to achieve fame and status, people resorted to accumulation of wealth. Traders went to Punan Vuhang country to obtain rhinoceros horns and other forest products such as bezoar stones, gutta percha and woven rattan products. While the women remained at the camps to weave rattan mats, the men explored the forest to search for rhinoceros and other products. Several hunters successfully obtained rhinoceros horns which they barter-traded for bales of cloth, and ornaments of brass and copper and other adornments in addition to the all-important tobacco, as the Punan Vuhang increasingly became addicted to it.

The Era of the Second World War (1941-1945)

In the subsequent years after the peace-making until the Japanese Occupation in 1941-1945, there appear to be no events of major significance. At the height of the Second World War, the Japanese Army advanced into the region of the headwaters, occupying Long Nawang in the Apau Kayan in Kalimantan. Before the arrival of the Japanese, traders had warned the Punan Vuhang of the impending war. However, being so remote, the Punan Vuhang were not directly affected. Their only direct experience was hearing the roar of aeroplanes' engines and then seeing the planes fly overhead. At first, they thought the planes were powerful spirits flying toward them to kill them. The women and children cried fearfully for their lives. However, I was told that protector-spirits informed their shamans that the flying objects were not spirits as they were very hot. The spirits tried to enter the planes but could not, due to the extreme heat. The spirits were convinced that the flying objects were not supernatural beings, as spirits could not endure fire and heat. They saw that the flying objects contained human beings of a different race who lived on land.[1] The Japanese did not advance into the Punan Vuhang country, and the only consequence of the war experienced by the Punan Vuhang was the lack of trade goods. Barter-trading ceased and people had to revert to the use of tree bark for clothing for a few years and eat bland food without any salt for flavor.

After the war, the Punan Vuhang left the Peluan at the Linau headwaters and went down the Linau. From the Linau they crossed into the Kajang and then returned to the Peluan after making a circumambulation around the territory. It was on their return to the Peluan that the first group of Kayan traders led by Lake' Idot reached the Punan after the

[1] Twenty years later, the Punan Vuhang had their first direct encounter with planes. The planes that appeared during Indonesian-Malaysian Confrontation in 1963-66 were helicopters which were used to bring supplies to the British Forces stationed with the Punan Vuhang.

war. After that, no event of major significance occurred until the arrival of the photographer Lim Poh Chiang in 1962.

Ulok Imang, the trader who guided Lim, brought along fishing nets for trading with the Punan Vuhang. With the fishing nets, the Punan Vuhang caught so many fish that two-thirds of their boats were filled. It was the first time that they had used fishing nets and this would become a common fishing method in the future. Not long after these visitors had left, the era of the Indonesian-Malaysian Confrontation, which had a great impact on the Punan Vuhang, began.

This ends the first part of the narration of the oral history as subsequent events related to the Confrontation would result in the Punan Vuhang adopting sedentism and cultivation. The later part of the oral history will be provided in the chapter related to cultivation (see Chapter 7).

Conclusion

In the first part of this chapter, by examining the resources of the rainforest and the Punan Vuhang mobile economy, we can appreciate how Punan Vuhang were able to exist independently of shifting cultivators. From the Punan Vuhang's perspective, we can reconstruct three cycles of abundance followed by scarcity. In the first cycle, the Punan Vuhang recognized that seasonal drought triggers flowering. This is followed by fruiting and a momentary abundance of fruits and game. Such was the seasonal certainty that their calendar, covering the only period for which they measured time, started with the appearance of mass flowering, and ended when food scarcity began. The second cycle revolved around ease followed by difficulty in hunting. With fruit abundance, animal populations exploded from new births and arrival of migratory animals, providing easy prey for hunters. After the fruit season ended, food scarcity caused animals to forage far and wide, making it difficult for hunters to locate them. During very long periods of food scarcity, the Punan Vuhang searched for a variety of food. When the river was low, they caught or trapped fish. So long as one was diligent, the forest would bare its yield to the hunter who made an effort to search for the foods.

The third cycle related to mobility. When food in an area was exhausted, a band would simply move to a place with food abundance. When the food there was depleted, they again left it for another place, thus beginning another cycle of mobility. Although the forest was not a "Garden of Eden," the Punan Vuhang had successful coping strategies to overcome food shortages, thus refuting the revisionists' argument that according to the Law of the Minimum, long periods of scarcity make human growth and reproduction impossible.

In the second part, a synopsis of their oral history strongly suggests that the Punan Vuhang had been independent of farming societies for food due to the fact that they lived in areas too distant for trading of food to have taken place. We have shown that the frequent movement into distant forests was to avoid hostile farming societies. This was not to gain accessibility to forest products, supporting Brosius's (1991) argument against Hoffman's notion that hunter-gatherer communities dwell in deep forest areas for accessibility to forest products to exchange for agricultural products (Hoffman 1984, 1988). As will be shown in Chapter Four, transportation of food was not a feasible option when trading expeditions required hauling laden boats over rapids, and then walking and crossing mountain ranges to

reach Punan Vuhang camps. So being the only people living in an area not populated by shifting cultivators, they had to rely on their own efforts to obtain food. This concurs with Sellato (1994:119):

> The primary forest, in particular the lowland and intermediate forest, constitutes what I will call an economic niche, rich in animal and plant resources. It is this niche that the nomadic hunter-gatherers occupy… its location is always beyond the world of the farmers, farther upstream. . . . the Punan are permanently dependent upon the forest for their daily subsistence. Most writers have stated that the Punan live exclusively off the produce of the forest, which permits them total autonomy as far as diet is concerned; and this is confirmed by the most recent serious studies on the Penan of Sarawak (Brosius 1992).

Chapter Three: The Hunting and Gathering Economy

Introduction

Having described in the previous chapter the Punan Vuhang's adaptation to the physical environment through their former mobile economy, this chapter provides a detailed account of Punan Vuhang food acquisition methods. It describes hunting and trapping processes, stage by stage, and Punan Vuhang knowledge of the reactions of animals under pursuit. I begin with a description of the processing of wild sago, the primary source of starch or carbohydrates during the time when the Punan Vuhang were still hunter-gatherers. This is followed by an account of the significance of the wild boar, the animal viewed by the Punan Vuhang as their most important source of protein, and their methods of boar hunting. Also included here are myths and local knowledge about wild boar. A section focuses on hunting dogs, the practice of selective breeding, and the use of rituals to protect dogs from being harmed by spirits. This is followed by a description of blowpipe hunting for birds and other arboreal game. The last section describes Punan Vuhang trapping and fishing, and the collecting of firewood and other inedible forest products.

Many of the activities described in this chapter are no longer being practiced and my descriptions cover several time periods. Some are accounts of activities that I observed when I accompanied the Punan Vuhang to process sago, hunt with dogs and guns. To enhance my understanding, informants often explained how other processes had been done in the past. These included activities that the Punan Vuhang no longer practice today, for example, *kusi* hunting without the use of dogs, blowpipe hunting, trapping, and some fishing methods. Here, I distinguish between activities I actually witnessed and those that were described to me as having been done in the past.

In describing the Punan Vuhang hunting and gathering economy, we shall see that the Punan Vuhang, like the Batek Negrito of the Malay Peninsula (Endicott 1979:22), were a practical people with little reliance on magical means. Instead, individual hunters relied on knowledge and skills to locate and track down game. They only invoked spirits for help when they needed to alleviate the ineffectiveness of their hunting dogs.

Sago Processing

Sago was the staple food of the nomadic Punan Vuhang and the sole food resource available throughout all seasons of the year. Except during the season of abundance, the nomadic economy closely followed sago exploitation. Without sago, the people could not have survived in the forest. Old people repeatedly impressed this fact upon me, with Luhat Tehin, the oldest man in the community, aged about 90, saying:

> In the past, we were a people who moved about in the forest in search of sago and animals. When an area had no more sago, we moved to a new place to look for more sago. Our people have done like this since our forefathers' times.

As sago was the basic and most important food source for the nomadic Punan Vuhang, I will describe in considerable detail the activities that related to it.[1]

[1] See also Sellato (1994:121-122) and Puri (2005:155-159) for a description of hunter-gatherers' use of sago in Borneo.

Sago is a plant that contains much starch inside its palm. The community relied on starch as their staple food for most of the year, especially when there was no other available carbohydrate source. Sago consists of two types, *tajuk* (*Eugeissona utilis*), which is the more common species, and *nyamakoh* (*Arenga undulatifolia*).

Eugeissona is found throughout their area but is particularly abundant in the headwater regions. It thrives in huge clumps of aerial roots that contain many palms. It is a type of vegetation that sometimes dominates an entire river valley, although it may also be found in isolated concentrations spread throughout the forest. The diameter of the *Eugeissona* trunk at its base is about one and a half feet. It is difficult to harvest because the palms grow in clumps raised above the ground on aerial roots that are more than ten feet high, and the trunks are covered with thorns. The other type of sago, *Arenga*, is more widespread. Unlike *Eugeissona*, it is a solitary plant, although it also grows in clusters with a few palms growing together. *Arenga* is smaller, up to a foot in diameter, but it does not have thorns and grows right on the ground, thus making it easier to process compared to the *Eugeissona*. Due to the predominance of *Eugeissona* over *Arenga*, however, the Punan Vuhang considered *Eugeissona* their main food source.

Sago processing involved four major stages:[1]

1) searching for mature sago palms and determining their starch content;
2) felling a palm and cutting it into logs;
3) mashing the sago pith into a fibrous pulp; and,
4) filtering the starch from the pulp.

The first stage involved a man exploring (*ngelela*) the forest in search of sago palms. To do this, he walked along the top of slopes and ridges to look down at the surrounding areas for palm leaves that protruded through the forest canopy. When he saw a palm or a cluster of palms, he went there to check their suitability. He looked for mature palm trees that were flowering or bearing fruit. For the *Arenga* sago, the protruding "horny" growth on the trunk also marked its maturity. Then the man would check (*paklug*) the starch content of each mature tree. For a *Eugeissona* sago trunk that grew in a huge clump containing many palms, he constructed a simple ladder (*ogak*) to reach the top of the clump. Avoiding the thorns, he cut and cleared any obstacles that hindered his work. Then he tested the starch content.

To do this, he used a knife to notch through the hard shell of the trunk and cut into the pith. He then chipped the pith into a fibrous pulp and took some out to press against his knife blade. The presence of a white tinge on the knife (*tinu koh*) indicated a sufficient amount of starch in the tree. A watery pith indicated the plant was in poor condition and the tree was left. However, if the pith was dry but did not show any starch, the tree was still young and he reserved the palm for future use. He covered the exposed notch with mud or clay so that the wound would not infect the plant. He continued to test as many trees as possible to find out the number of quality palms. If they were more than sufficient, he returned

---

[1] During the 1994 period of fieldwork, I actively participated in sago processing with my foster household. In early February 1994, a flood swept away the newly harvested rice kept at temporary rice stores by the river bank. So, for that whole year, we had to fall back on sago. The processes mentioned below are therefore based on my participation and observation, with additional information given by informants.

to lead his siblings who lived with his band to harvest the sago together. If the resource was only adequate for his household, he merely brought his wife to process it. Following that, he either would return to the camp or immediately chop some more palms so that he would not have to do too many tasks the next day.

The second stage involved felling the sago tree and cutting the long and heavy trunk into logs for carrying to the processing site. After he felled the palm with an axe, he measured the trunk into four feet long logs (*palet*). The last was the top end of the trunk, just below the crown where the fronds protruded. Depending on the tree length, he could obtain three or four portions from each palm. At the tip of the last portion, he again examined the starch content. If the pith had starch, he then severed (*mutu*) the portion from the trunk. If the starch content was meager, he tested the portion lower down the trunk. Usually this portion contained some starch and so he would sever it from the trunk. Then he cut up the trunk into the log sections that he had marked earlier.[1]

The next step involved cutting away the bark that covered the inner shell (*masap*). For *Eugeissona,* the bark forms the base for thorn growth and, in the case of *Arenga*, it retains the bases of dead fronds that remain attached to the trunk. The task of cutting away the bark on flat land was simple. If the access route to the stream for processing was located below the sago growth, the man let the logs roll down the slope. On the other hand, if the access route was located above the sago plants, he ensured that the trunk did not roll all the way down to the bottom. Otherwise, it would require a great effort to bring back the logs to where the palm was felled. So, he stuck a line of cut wood onto the slope to stop the logs from rolling. Then he cut away the bark. After that, he stuck a second line of wood about one and a half feet below the log to hold it in position when it rolled down a little to expose the bark on the other side of the trunk. On a very steep slope, the weight of the heavy portion made the work more strenuous and challenging. With *Eugeissona* sago, the work was made even more complicated by the presence of thorns.

Transportation of Sago Trunks

The third stage, transporting the heavy logs to the processing site, was the most laborious part of sago processing. The man had to carry one portion at a time and usually had to transport seven to nine logs in all. If the processing site was located below the palm growth, the man could simply roll down the logs (*puluvit*). In many areas, however, he had to carry the logs on his shoulder (*yun*), walk along flat ground and then up a slope. If the uphill route was steep, he would tie a strap around the trunk and carry it like a backpack with shoulder straps. Only young men did this heavy work. An old man would select sago that was located above or close to a stream. All these stages together, from felling the palms to dividing the trunks into short portions and then transporting them to the processing site, required a few hours. Usually the man used the first half of the morning for these tasks.

[1]In the case of a mature *Eugeissona* sago tree that bears fruit (*kavangoh*), the highest starch content is found at the tree's top just below the crown of leaves. There was no need to test this type of mature sago tree.

Mashing Sago, *Mahap*

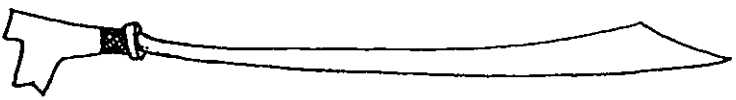
The fourth stage, sago mashing, involved crushing the hard sago pith into a fibrous pulp and detaching the starch from the fiber. The man performed the mashing work at a site near a stream for filtering. While the man was preparing and transporting the sago, his wife readied the mashing platform (*apan*). The *apan* location should be close to the palms in order to facilitate the transport of the heavy trunks. She chose a flat place that was near a stream so that she could easily carry the mashed pulp to the stream for filtering. At the mashing site, she cleared the undergrowth and vines that might hinder the work of her husband. She then covered the ground with several layers of leaves to prevent the mashed fibrous pulp from dropping and touching the ground. The leaves chosen were broad and long enough to effectively contain the sago pith. These leaves included the *kelepang, lawang, lujuk, orak* and *tajuk* and, in mountainous areas, the *tuket*. Nowadays, with the availability of plastic sheets, she places a plastic sheet on top of the leaves. Then she arranges a few more layers of leaves to protect the sheet from tearing due to the rough mashing work. After completing this, she constructed the filtering platform.

When the site was ready, the man split all the logs in half to expose the pith found inside the hard shells. He placed a half portion on the mashing site with the pith facing upwards. Then he began his work by standing on the sago pith. He used a hammer (*palu*) to hack the middle of the entire length of the hard pith into a straight groove (*tupat*). Following the groove, he hacked and pounded the pith from one end to the other, increasingly enlarging the groove until the hacking reached the shell. Following that, he scraped the pith from the shell: a process called *git git*. After that, he pounded the fibrous pith into a very fine pulp (*peyak*) until it became almost powdery.

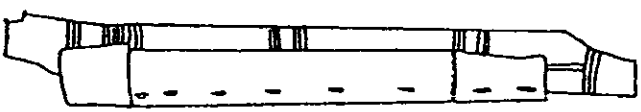
To crush the hard sago pith into a fibrous pulp, the man used a hammer (*palu*) that was specially designed for this. The hammer head had a sharp wooden edge to hack and chip the sago pith, and a striking surface to pound and crush the hard pith into pulp. The hammer was about a foot and a half long, with a diameter of two inches. It was made of the hard *palu* root which was heavy and gave weight for a strong striking force. The head was connected to a shaft and handle (see Figure 10, page 74).

Mashing was extremely monotonous work requiring a rhythmic coordination of the body. He struck down the heavy *palu* hammer with a simultaneous contraction of the muscles of his arms, shoulders, chest and stomach to provide maximum strength. This coordination yielded great strength to wield the hammer, as well as great force to pound the pith. When he pulled up the hammer, the muscles of his legs, hands and back reacted simultaneously to spread the effort throughout the body. As he pulled up the hammer, one hand lifted up the shaft close to the heavy hammerhead to lessen its weight, while his other hand held the handle. When he stretched his body to a striking position with the hammer upright over his head, he clasped his hands together on the handle to whack down the hammer. Strong young men, however, simply pulled up the hammer with both hands on the shaft as the weight did not tire them easily. Another important posture during this striking motion was to fully stretch the body upright. This avoided causing the backache that would otherwise result from a partially stretched body.

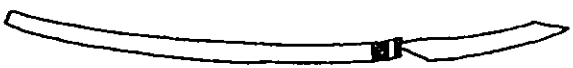
Figure 9: Cutting Tools



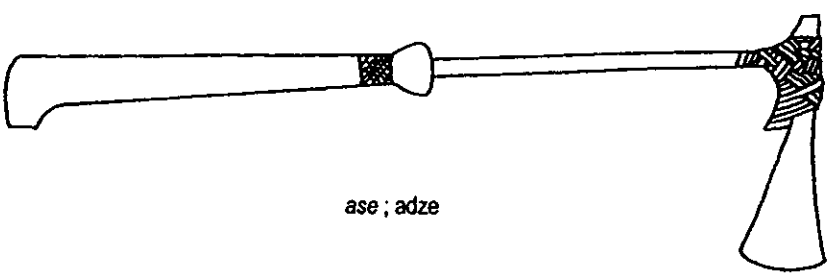
ovi ; knife



bukat ; sheath



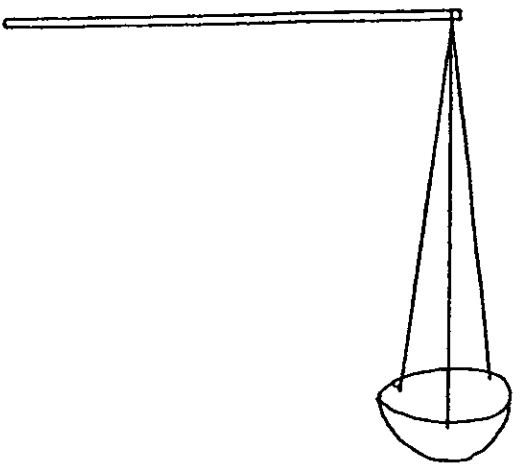
yu ; small knife



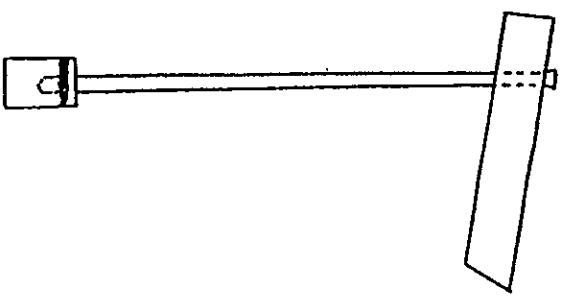
ase ; adze

Adapted from Chin (1985)

Figure 10: Sago Processing Tools

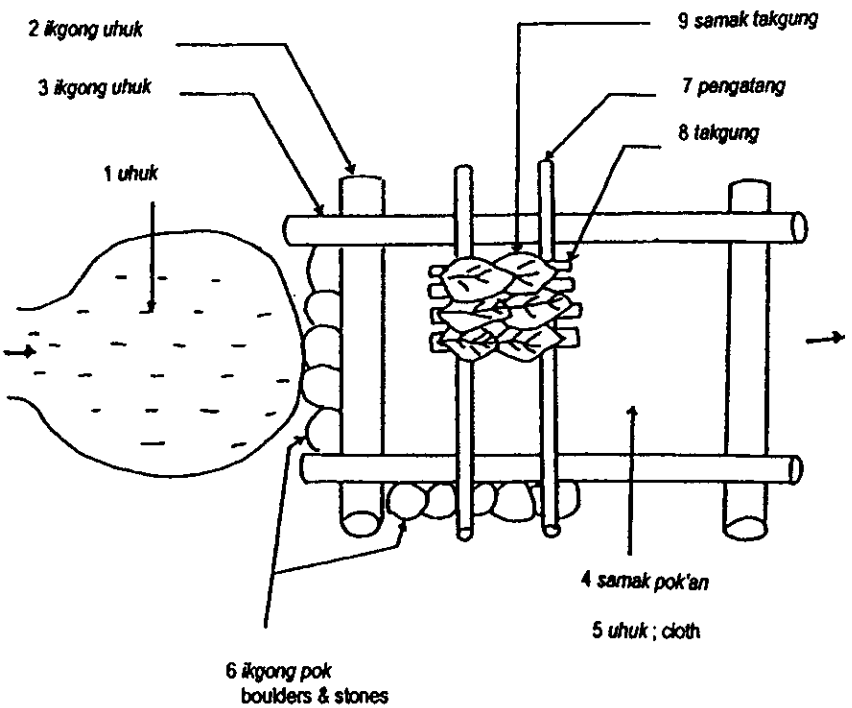


pengivu ; scoop



palu ; hammer

Figure 11: Sago Filtering Platform, *Pok'an*



Note Most Punan Vuhang terms have no equivalent translation, see text.

Pounding required a few hours. By the time the man completed it, it would be early afternoon. If there was much more pulp for filtering, he would go hunting while waiting for his wife to complete her part. If his hunting was successful, they would eat fresh meat and sago for the day.

An important factor was the correlation between the degree of pith hardness and starch quality. The Punan Vuhang believed that the harder the pith, the higher the starch content. This was because the more mature the palm was (harder pith), the higher the content of sago starch. A fully mature palm contained black or brown colored fibers that were usually found at the base of the trunk. On the other hand, a young palm consisted of orange fibers which were quite soft. The Punan Vuhang also preferred a harder pith because the starch in a hard pith detached more easily from the fibers during filtering. Furthermore, a hard sago pith did not require much pounding while the soft pith required pounding until the pulp had turned into a powder for maximum starch extraction during filtering. Similarly, the *Arenga* sago contained a much harder pith that did not require much pounding. Therefore, although the harder pith required much more strength to pound, it required less work to filter.

Filtering, *Mok*

The filtering process was the last stage before the sago became edible starch. This involved dissolving the starch from the fibrous pulp, filtering the fibers from the solution, and draining the water to strain out the starch. The tools used were a basket that functioned as a filter (*yut*), a container to scoop water (*pengivu*), and a platform on which to work (*pok'an*). The water-scooping container (*pengivu*) consisted of a shaft tied by three pieces of string to the container. The strings' length was the same as the length of the shaft so that the woman, with one hand gripping the handle, could simultaneously use the same hand to grab hold of the container for pouring out water.

Filtering Platform (*pok'an*) — Before the woman began filtering, she had to construct the platform (*pok'an*) over a stream or on the side of a riverbank. In the hinterlands where streams are small and sluggish, she might deepen and enlarge the stream, creating a small pool to gather more water for the filtering. She removed the soil and stones by digging at the bottom and sides of the stream. Then she piled them into a dam to block the flow of the stream and create a pool (1: *uhuk*, following numerical sequence in Figure 11), of about four to five square feet.

This ability to utilize a very small stream and block it to form a small pool enabled the Punan Vuhang to harvest a vast area of sago. This skill was vital during drought seasons when few streams in the hinterlands contained flowing water, and, it was during droughts that the community had to rely on sago as their main food resource.

In constructing the platform, the woman placed two trunks (2: *ikgong uhuk*) the size of a forearm perpendicular to the bank of the stream, slightly downstream from the dam. She planted the trunks firmly in the bank. She laid two wrist-sized trunks (3: also called *ikgong uhuk*) on top and perpendicular to the two previous trunks. These four beams functioned as the main frame of the platform. Then, within the frame, she arranged a few layers of leaves (4: *samak pok'an*) on the river bed to produce a flat base. Following that, she put a piece of square cloth (5: *uhuk*) on top of the leaves and fixed it over the platform by fastening each

edge of the cloth to one of the four corners of the platform.[1] She folded the four sides of the cloth over the beams and then placed stones around the edge of the cloth to keep it on the platform (6: *ikgong pok*). The cloth functioned as a strainer for retaining the starch while draining the water. Then she attached two pieces of hardwood (7: *pangatang*) on top of the two side beams (3).

The beams (*pangatang*) supported the platform. On top of the two beams, she put a few pieces of hard sago shell (*bengo*) to function as a small platform (8: *takgong*). Then, on top of the *takgong* she put a layer of broad leaves (9: *samak takgong*). The purpose of these leaves was to slow the flow of water from the filtering basket during the processing so that she needed less water. The erecting of the small *takgong* platform completed the *pok'an* filtering platform, and she then began to filter out the sago starch.

The filtering process, *mok*, required various coordinated body movements, and there were special terms to describe each sequence. She performed a set of actions simultaneously, resulting in a rhythmic motion of her body. First, she gathered some fibers (*peyak*) into a basket (*yut*) and she then placed them on the platform (*pengatang*).

Rinsing Fibers with Fresh Water (*makit lanum*) – After she had rinsed her feet in the stream, she stepped into the *yut* basket. Then, she used the container (*pengivu*) to scoop water for pouring (*makit lanum*) into the basket. As she pulled up the container's shaft, the same hand that held the shaft caught the container to pour the water into the basket while the other hand held the basket. To use the container, she had to make a coordinated rhythmic motion of scooping and pouring water which now only the elderly women can perform gracefully.[2]

Trampling the Pulp (*mok*) – She simultaneously poured the water onto the pulp, and used her legs to trample and thrash (*mok*) the pulp to loosen the starch. The water then dissolved the starch from the fibers. The solution that flowed out from the basket was deep orange in color which indicated its rich starch content.

Rotating the Pulp (*tokut*) – After that, she turned over (*tokut*) the pulp for an even thrashing. As she used one hand to scoop and pour the water, she used the other hand to pull the basket towards her legs so that she could rotate the pulp at the bottom. She did this with all four angles of the basket to ensure the rotation of all the pulp. She thrashed and rinsed the pulp with water until the solution turned transparent. The woman rhythmically bent her body, knees and back, and then stretched her body to pull the basket, all at the same time as scooping and pouring the water into the basket. It was extremely tiring, especially for her back, as it required endurance and skill using her legs to churn and turn the fibrous pulp. After the starch was dissolved, she stuffed the leftover pulp into an edge of the *pok'an* frame.

[1] Before cloth was available, the Punan Vuhang used a fine, very tighly woven mat for this purpose.

[2] Most of the women were still young when the Punan Vuhang adopted rice cultivation. Since they no longer rely on sago as their staple food, they missed the opportunity to acquire the skill of doing this task gracefully.

This pulp then functioned as the *ikgong pok* to help hold the cloth in place, for by then it was filled to the brim with starch solution.

Rinsing Fibers with Starch Solution (*lupoh*) – Then the solution inside the cloth (*uhuk*) was used to dissolve a new basketful of fibers. Instead of scooping water from the pool of water, she scooped the solution from the cloth which was filled to the brim. If she used fresh water from the pool, the cloth would overflow. Consequently, she used the solution to dissolve the new starch until a considerable amount of water was drained from the cloth. Then she resumed dissolving the starch with fresh water (*makit lanum*). She kept trampling and thrashing until the water flowing out of the basket became transparent.

Sanok – In this stage, the starch solution settled. By midday, the man and his wife began to feel hungry and stopped work to let the starch settle. The woman waited until her feet were dry, thus indicating that the starch had fully settled.

Tising – This was the final stage of draining the settled starch. A corner of the cloth of the *pok'an* frame was untied and the water drained out. Care was taken to ensure that the water did not gush out, draining some starch away. What then remained was a white layer of floury paste—the sago starch (*lug*)—the final product of sago processing.

She gathered a little of the paste and shaped it into a round dough. Then she tied the cloth up again to resume another round of filtering. While the woman continued her work, her husband started a fire to cook the starch. When the fire was ready, she diluted the starch with water, and cooked it into a paste. After eating the sago paste for lunch, they resumed their work. The man continued to pound the sago pith and she to filter the sago pulp. When he finished pounding, he would go hunting.

By late afternoon, she would have finished filtering. She then waited for her spouse to return from hunting. Unless he was pursuing large game, he would return by then, roughly estimating the time that she needed to process all the sago. On his return, she drained out the water, and together they folded the cloth that contained the starch. The folding of the cloth followed a pattern. First they folded the cloth from the downstream direction (*tet lalat*) toward upstream (*tet laut*) over the sago starch. She pressed down the dough and unfolded the cloth. Then they folded the cloth from the upstream direction towards downstream over the paste. This rolled the starch into a long piece of dough in the middle of the cloth. If the dough had abundant starch (*ayok lug*), it could measure up to one and a half feet wide, a foot thick and about two and a half feet long. A dough with much less starch (*icik lug*) only measured less than half of that. Then they folded both edges of the cloth together and rolled it up. They folded up the other two ends into a bundle, and then put this bundle of starch into the basket (*yut*) which the man had earlier put into the larger basket (*kalong*) for immediate transportation back to camp.

Upon arrival at the camp, and after resting for a short while, she distributed (*tulat*) the starch to all the households in the camp. This distribution was exclusively a woman's work and her daughters could assist her. She opened the cloth and broke the dough, keeping about half of the starch for her own household. Then, with the help of her daughter, she molded, pressed and rounded (*nuluvei*) each piece of starch into a small ball of dough.

Depending on the starch quantity and number of households making up the camp, the size of each ball of dough would be about three inches in diameter. For immediate kinsmen (*panak*), she molded the dough into a bigger ball (*nakayok-nakayok koh*), up to half a foot in diameter. Then her daughter helped to distribute the starch, first to close relatives who were members of the primary sharing network, and then to all other households. The remaining starch was then kept for their own consumption, in addition to that put aside earlier.

After distributing the sago, she prepared the first meal of the day for the household. She mixed some starch with water and then poured boiling water into the mixture. As she poured, she stirred the solution continuously until it turned back into a paste. Then she kept stirring the paste until it was evenly cooked. This sago paste (*linut*) was the basic staple food of the Punan Vuhang, although there were a variety of sago dishes.

Sago-Related Taboos

While the above describes sago processing activities, the following relates to taboos that the Punan Vuhang observed when processing sago. For the thorny *Eugeissona utilis* sago (*tajuk*), the community did not observe any taboos. It was for the *Arenga undulatifolia* sago palm (*nyamakoh*), which did not have thorns, that the strict observance of taboos applied. The Punan Vuhang believed that *Arenga* sago possessed a sensitive spirit that feared sharp objects so, in the presence of an *Arenga* palm, the mentioning of thorns (*dui*) was forbidden. Violation of this taboo caused the spirit of the *Arenga* starch to flee. Consequently, even though the testing of starch had indicated a high starch content, the violator would obtain very little starch from his sago processing.[1] If one had to mention the word *tajuk*, he referred to it as *bareh laun* which means 'fine leaves,' as the *Eugeissona* sago has long fine leaves in contrast to the wide and rough *Arenga* leaves. The reference to the *Eugeissona* sago was connected with the following:

The Punan Vuhang believed that the *Arenga* spirit's fear of sharp things, including the *Eugeissona* sago palm, could be manipulated to their advantage. When they processed *Eugeissona* and *Arenga* sago together, they would filter the *Arenga* first. After they had completed filtering *Arenga*, they then would filter *Eugeissona* sago so that its starch would settle on top of the *Arenga* starch. Afraid of the *Eugeissona* starch, the *Arenga* spirit tried to escape, but found its way blocked by the filtering frame. Thus, it had no way to flee except upwards. Consequently, the spirit would push the *Eugeissona* upward to escape. However, to prevent the spirit from escaping, the Punan Vuhang would request the *Arenga* spirit to push up and thicken the entire layer of starch by chanting:

Ok mok koh nyamakoh ni mon.	I filter you *nyamakoh* first
Gon koh nyuvuwat luq tajuk nyi,	so that you will push up the *tajuk* starch,
mek in ayok koh!	make it bountiful, please!

[1]According to an informant, some young men did not believe this and tested it. A group selected a high quality *Arenga* palm and tested it, finding it to contain much starch. Then they took thorns and poked them into the trunk, supposedly causing the starch spirit to flee from the thorns. True enough, after processing, they obtained very little starch. Since then, the community has become even more observant of the taboo.

Another belief not related to the *Arenga* spirit concerned filtering sago in muddy water. The Punan Vuhang believed that filtering *Arenga* in muddy water improved the taste of the starch and increased its amount. In comparison, filtering in clear water resulted in a bland and less copious starch.

Hunting Wild Boar

Hunting was an extremely important activity for the Punan Vuhang, equal to sago processing. Wild boar (*bavui*; *Sus barbatus barbatus*) were the Punan Vuhang's most important game. Compared to all other types of game, a wild boar provided the most flesh. Even more important, it contained fat, a rich source of energy. While the Punan Vuhang occasionally did hunt without the aid of dogs (*kusi*) for sport, hunting with dogs was the only method that gave a certainty of success.

I will start by discussing the methods, rules and regulations that applied to hunting, based on my observation of the activities in which I participated. Informants provided detailed information on how the activities were done, some of which were no longer performed due to their having settled down in one area. Then I will describe the characteristics of wild boar. Knowledge of animal traits was vital for successful hunting. This knowledge of wildlife is common among hunter-gatherers. According to Bahuchet (1992:209), the location of game can be, to some extent, predicted by hunters: "with their knowledge of the habits and behavior of the animals species they may visit the places where the animals feed or sleep, for instance the fruiting trees or the dense thickets." The details are amplified by Puri's study of hunting among the Penan Benalui:

> Penan hunters rely on their knowledge of the forests, mountains, and rivers to locate animal prey, plants and other resources. They respond to spatial and temporal variation in the abundance and distribution of animal prey, fruiting trees, and other forest resources by altering the tools, techniques, and strategies employed in hunting and collecting. Switching to more compatible subsistence activities can occur seasonally as well as on a daily basis in response to some change in the environment, such as the weather, the fruit season, or the migration of animal prey (2005:73).

Hunting with Dogs, *Nagak* or *Tet Ahu*

Using hunting dogs *(nagak* or *tet ahu*) was the main technique employed to hunt wild boar. Before bringing his dogs to a hunt, a hunter explored the forest floor for fresh signs of wild boar. During the fruit season, when various types of fruit had ripened, he would go to locations where there was an abundance of fruit for wild boar to forage. The Punan Vuhang called these fruits *tone*, and among the choice fruits were the oil-rich seeds of the *Anisoptera spp.*, *Shorea spp.*, (*bua' upak*; *manator*); *Cotylelobium spp.*, *Dipterocarpus spp*., oaks and chestnuts of the tree families Fagaceae (*bua' terkalet*), and the *okar kalei*.[1] In the off-fruit season, wild boar were found in sago groves with *Eugeissona* palms that still bore overripe fruits. The search for these fruits was called *ngelela* or *pujuak*. When the *tone* fruits were not

[1] See Appendix 3 for the various *Anisoptera*, *Dipterocarpus* and *Shorea* species which bear fruit consumed by wild boar.

in season, the hunter searched for fresh wild boar tracks (*ivah*) or for their resting places (*salah bavui*). When the hunter saw any of these signs, he took care not to disturb the tracks as the wild boar would return to the area and he could bring his hunting dogs. With any signs of disturbance, the wild boars were likely to flee.[1] The sighting of these fresh marks indicated a high probability of success in hunting down the wild boar, as the game had not gone far enough to avoid the dogs' detection. The hunter then returned to camp and informed the community of his finding. This reserved for him prior right to hunt in that place.

Generally, however, a hunter failed to come across any signs. If his household was in urgent need of meat, he would then bring his dogs to hunt on a trial basis without any certainty of acquiring game. Chances were that he would not come across any trails in the vast forest. Then it was up to the dogs, using their keen olfactory powers, to track down game.

On the night before hunting, hunters informed the community of their selected hunting locations. Those who had seen fresh signs had prior right to the areas selected. The rest went on a trial basis to hunting grounds that nobody else had chosen. The community did not hold any formal meeting to do this selection, whoever first mentioned his selected area obtained the right to go there. Some hunters only decided to go hunting on the morning of the hunt, as they could not make up their mind any earlier where they planned to go. Only before going out hunting did they inform other hunters who similarly had yet to go.

This planning and selecting of hunting grounds prevented different groups of hunting dogs from meeting in the forest. Dogs from different households tended to fight when they met. In the forest, out of reach of the hunters' control, there were no means to stop them and there were cases of dogs that fought to the death and of many others being crippled. To avoid this, hunters took turns (*suqu'ak-qu'ak*) leaving the camp. The hunter who was going the farthest departed first, followed by the person who was going to the next farthest ground. The person going to the nearest location was the last to leave. When all these hunters had gone, those who had chosen their hunting territories after the first group had spoken would leave the camp.

By daybreak, the first hunter left without taking any food, only his knife and spear. He whispered softly to his sleeping dogs and they instantly responded to his call. As he left the camp compound, he called out softly "nyeh nyeh" so that the dogs headed in his direction. Other hunters recognized his voice and waited in their shelters for their turn. The next hunter waited a moment for the earlier hunter's dogs to go a safe distance. Then, he called his dogs to go hunting. All the other hunters continued to space out their departures in a similar fashion.

Along the way to the chosen hunting grounds, the hunter repeatedly called out to his dogs to ensure that they followed him. Although the dogs were spread out over a wide area, the hunter's calling of "nyeh-nyeh" kept them within hearing range. When he headed in a different direction, they responded accordingly and changed their direction of exploration.

The synchronization of the direction of the dogs' movement according to the hunter's position was vital. In most major tributaries, different hunting grounds that shared a

[1]However, during the off-fruit season, a wild boar did not return to the same area again, as it moved on in search of food in other areas. In this case, the hunter had no worry of disturbing the tracks.

tributary's watershed system were separated by a great distance. Each hunting ground stretched far up the valley of a smaller stream. As a hunter usually tracked along a ridge parallel to a stream, his position served as the focal point for his dogs which were spread out in different directions. Although the dogs were at a great distance from each other, they moved in the same direction. Eventually the hunter and his dogs arrived at the site where he had spotted signs of wild boar during the previous day's exploration. Instead of calling softly, he then would call out in a high pitched voice, "he-he," to encourage the dogs to spread farther to seek the scent of the wild boar's tracks.

As the dogs fanned out, they frequently came across mousedeer (*pelanuk*) and barking deer (*tela'u*) that were found in abundance in the forest. While well-disciplined dogs would ignore these animals, most average dogs chased after them. The hunter recognized the type of game by the kind of barks the dogs made. The barking that sounded like "Hoh! Hoh! Kok! Hooh!" indicated that the dogs were chasing small game. The Punan Vuhang called this unwanted chase *ahu mukgak*. Barking after a deer or a wild boar sounded like "Hoar! Hoar!" The people called the chase for big game *mangin*.

The barking for a small animal (*mukgak*) drained the dogs' strength. Then, when they would later chase a wild boar, they would become easily exhausted. More seriously, if the pursued game was a fully grown male barking deer with long and sharp canine teeth, it was capable of killing the dogs. Besides, a wild boar that heard the barking would run away. So, the hunter called out "Hoo! Hoo!" to call them back. Usually they obediently returned to their master.

The hunter called out "Nyeh Nyeh," and then "He He," to encourage them to fan out again. When a dog scented a large game animal, it barked and chased it. The other dogs that had spread into other areas then joined the first dog. After hearing the barking sound, "Hoar! Hoar! Hoar!" (*mangin*), the hunter waited to identify whether the animal was a deer or a wild boar. Initially a pursued animal ran uphill to avoid the dogs that usually chased after it from the foot of the hill. If it were a deer, it would outrun the dogs, causing the pursuit to continuously head uphill. If it were a wild boar, the leaner and lighter dogs would soon catch up with it. When the wild boar could no longer outpace the dogs by running uphill, it then turned around to run downhill.

By this change of direction, the hunter differentiated wild boar from deer. A continuous chase uphill indicated a deer. If the dogs were strong and had caught deer before, the hunter encouraged them to continue the pursuit. Otherwise, as was the case for most dogs, the hunter would call them back.

The moment the chase changed direction by going downhill, the hunter called out, "Rooo! Rooo!" to encourage the pursuit. Meanwhile the hunter merely walked at a faster pace to follow the chase and assessed the direction of the wild boar's flight. As the wild boar headed towards a stream, the hunter mentally charted out the landscape to locate the wild boar. He identified the stream and its location within the watershed, and the likely direction in which the wild boar would head. Then he went to a slope that formed a part of the stream's watershed system so that he could follow the pursuit from a high position. Also, as slopes were usually straighter than meandering streams, he merely walked at a fast pace to keep up with the chase below.

As all the dogs caught up with the wild boar, the barking became intense. The hunter continually called out to the dogs to encourage their pursuit. At this point, he ran quickly towards the quarry, leaping, jumping, and running and sliding down the slopes, brushing aside obstacles such as thorny vines without any caution to prevent injuries.

Soon, the dogs surrounded (*paung*) the wild boar and the barking seemed to focus on one spot, becoming even more intense as the wild boar tried to fend off and escape from the dogs. The hunter would quickly run to the site before the wild boar was able to escape. Once he reached the surrounded wild boar, he would decide how to tackle it. A fully grown *temanyit* male with long tusks that turned round and round to attack the dogs was extremely fierce (*mesek' en*). The aggressive wild boar in desperation might even attack the hunter. If the hunter was brave and experienced, he would stab the wild boar without releasing the spear (*napalu*). A less experienced hunter was likely to hurl his spear from a safe distance (*nokjou*) of about fifteen feet. However, when a wild boar possessed short tusks, the hunter would stab (*napalu*) it.

Before spearing the boar, the hunter positioned himself carefully to target the boar's vulnerable parts in order to pierce right into its heart and lungs and cause instant death (*nok hun sun*). The target spots are around the shoulder blade which shields the most vulnerable organs of the body. The hunter aimed at the front point (*sung*); the point just behind the shoulder blade (*bitong*), and above the shoulder blade (*bavang*). If the hit was not accurate, he jabbed again and again until the boar dropped. If the spearing was ineffective and the wounded boar managed to run away, the dogs resumed the pursuit. As the bleeding was profuse, the quarry eventually weakened and was surrounded by the dogs again. The hunter then could kill the boar without further difficulty.

The hunter cut a short slit on the abdomen to pull out the internal organs for feeding the dogs.[1] This feeding also reinforced and strengthened the dogs' intention to focus their sniffing for wild boar and not simply chase any game found along the way. He stitched (*nyikot*) the cut on the boar's abdomen with a strip of rattan or a fig vine (*okar lunuk*), then searched for *buluvuh, pingitan* or *nyokat* tree bark to make a strap (*oii*) for carrying back the carcass. These trees' bark retained the shape of the straps, while other tree bark stretched into small pieces and would cut into the hunter's shoulders, becoming painful. The weight of a very big wild boar was lessened by cutting its head and limbs below the knees. If the distance was very far, he cut away its bones too, and brought back just the meat.

The hunter then cut short slits through the tough skin to pull the straps through the carcass. This ensured that the straps remained in position to provide a balanced load. After tying the strap tightly over the carcass, he carried it on his back with the straps bound over his shoulders, carrying it to the camp like a backpack.

When he reached the camp, the first person who saw the returning hunter would ask a child to make a long call, "Koo! Koo!" (*puklung*). Every child who heard the long call reacted instantly and ran towards the hunter while calling out to produce a rhythmic cooing that resounded throughout the camp. In the wild boar migration season, this cooing

[1]As dogs returned to camp before the hunter, it was through this bulging of the dogs' stomachs that members in the community knew in advance of a successful hunt.

resonated through the camp several times each day, informing of the return of the successful hunters.

Problems in Hunting Wild Boar

Hunting with dogs was not always easy and hunters frequently encountered problems, such as weak dogs, a strong wild boar that could endure a long distance run, or difficult physical terrain. The dogs' endurance and strength were important factors in determining the success of the hunt. It was difficult for weak dogs to outrun and corner a wild boar, especially a mature male boar (*temanyit*) which could escape (*takul*) after a long chase. On the other hand, dogs that were strong and capable of outrunning a mature deer did not face much difficulty in chasing a boar.

Exhaustion*, lehik litang* — At times, even strong dogs became exhausted and might give up after a long chase. Even when they had successfully surrounded the wild boar (*alum jian paung*), they might no longer chase it and so it would manage to escape. At times like this, the hunting failure rate was high despite many incidents of dogs meeting wild boars. Despite this, a hunter had to persevere and continue hunting to maintain the dogs' stamina and endurance. When the dogs recovered from being off-form, they easily regained their prowess. Also, if the dogs did not run sufficiently, their toenails grew too long, making it difficult and awkward to run during the pursuit of a wild boar.

Another problem was the ability of a wild boar to run a great distance, resulting in a long chase. When the *bua' taret* fruit was in season, if the wild boar had consumed the fruit, it could run with great endurance. Frequently during that season wild boars managed to escape from the dogs despite long chases and the Punan Vuhang attributed this to their having eaten the fruit.

A Long Chase — The nature of the landscape was another factor that affected the success of the hunt. When a wild boar fled from the dogs, it would eventually dash downhill, running into a stream and then along a tributary. As it ran following the pull of gravity, a strong boar could run a long distance before it was finally subdued by the dogs. On a meandering tributary that was gentle in its flow, the wild boar could run on without facing any physical obstruction. In contrast, on rivers with waterfalls, the sudden drop prevented the game from running further, and the dogs could easily catch up and surround the boar. For example, in the Kajang's tributary of the Kebuhor that contained a series of waterfalls, the sudden drop in the streams frequently prevented the boars' escape. Consequently, hunters preferred to hunt in such rugged terrain, as the success rate was considerably higher than along rivers that did not have waterfalls.

On some major tributaries, the access routes entering into them were shortcuts from other river systems. Instead of starting from the tributary's confluence, the shortcut directly led a hunter into its hinterland. When the wild boar ran past the entry point into the tributary, it would run very far down the river, thus resulting in a long period of hunting. Furthermore, after killing a wild boar downriver, the hunter had to carry the carcass over a long distance to reach the entry point that led to the main access route. For example, the access route into the Lumunung hinterland was through an overland route from the

Sengayan rivermouth. From the Sengayan, a hunter could walk directly into the headwaters, entering the Lumunung at the convergence of the Sik tributary. The wild boar that fled past the Sik confluence had to be carried over a long distance upriver back to the Sik.

On the other hand, entrance points into many short tributaries were from their confluence with the main river. Consequently, after the Punan Vuhang had become sedentary and had access to boats with outboard motors, they preferred killing wild boar near the confluence to killing them far upstream. Near the riverbank, a hunter only needed to carry the heavy boar carcass a short distance to reach his boat.

Wild Boar Running into a Different Watershed — Occasionally, the dogs met a wild boar near the top of a ridge or on a mountain range. To escape from the pursuing dogs, the wild boar would run uphill to the top of the ridge and then down the other side of the ridge. Pursued by the dogs, it ran further and further away from the hunter. For example, if the wild boar ran into the Linau side of the valley, the hunter had to cross the dividing range that separated the Linau from the Kajang. This required a very long journey. For that matter, if he had killed the wild boar in the morning, a hunter would only reach the camp shortly before nightfall, after carrying the carcass all day.

Dog Taboos, *Ahu Pali*

The Punan Vuhang observed a few taboos (*lalik*) that regulated practices when hunting dogs were used. It was believed that good hunting dogs (*ahu larkin*) possessed sensitive spirits that could be easily harmed, resulting in the dogs losing their adeptness or even causing their death. According to the taboo, all the animals that a hunter caught with the skill of his dogs required proper treatment. If someone broke a taboo, they performed a ritual to restore the dogs' ability. Under the *adet lalik* taboo belief system, the community was prohibited from doing any of the following to carcasses obtained by dogs:

1) Removing flesh from the skull and lower legs, (*mangahin*) — During lean times when meat was scarce, the community consumed all edible parts of a wild boar. If the wild boar was too big and the distance too far for carrying it back, the hunter would cut away the bones and take back only the meat and the offal. However the hunter could not cut the flesh away from the skull or the limbs below the knees. He had to chop these parts off the carcass.

2) Cutting bindings (*sikot*) and shoulder straps (*oii*) — The binding that stitched the cutting on the wild boar and the straps for carrying the carcass could not be severed. The binding had to be unfastened slowly, regardless of the difficulty in untying it. To avoid this difficult task of unfastening the binding, the hunter systematically tied the vines when he stitched the carcass in such a way that with a tug, the binding became loosened.

3) Cooking the *buyun* dish — The internal bleeding caused by a spear produced an amount of blood that was used as an ingredient for the delicious *buyun* dish. This consisted of a mixture of the blood, minced internal organs, fat and lean meat, and sago starch. This dish was delicious, but it could only be prepared from a wild boar obtained through the *kusi* method without the aid of hunting dogs. A *buyun* dish made from a wild boar obtained by the dogs produced a negative effect on the dogs that could not even be alleviated by a healing ritual.

4) Carrying internal organs across a stream — During meat distribution, internal organs could not be carried across a stream for distribution, even to closely related households. Even a stream that had dried up during a drought was considered an obstacle to the distribution of internal organs.

5) Chopping the liver (*ate'*) and cutting cooked internal organs — The Punan Vuhang did not chop raw liver (*mapet*), but sliced it into smaller pieces with a blade (*yu*). They could not cut internal organs that had been cooked, although they could use their hands to break and tear them into smaller pieces.

6) Hitting cooked meat — The Punan Vuhang believed that if cooked meat was beaten (*natek*) with a knife or an axe, the dogs that had obtained the wild boar would swell up and then die. If the dogs did not die, they would become even more skillful. However, the taboo would affect the dogs' owner, instead, causing his eyes to pop out and him to die. The community believed that this act was only performed by someone extremely jealous of the dogs' prowess. The offender himself would face negative consequences throughout his life due to retaliation by the affected dogs' spirits (*buruan ahu*). When this happened, no cure could alleviate the offender's suffering. Despite the severity of this punishment, there were said to be such cases that had occurred in the distant past.

7) Eating tortoise (*kalop*) — The household of the dogs that obtained a tortoise (*kalop*) could not eat its flesh. The hunter had to give it away to other households. If this taboo was not observed, the dogs would suffer from mishaps and their lives would be short.

8) Taking back the first hunted deer — The hunter had to abandon the first deer that a dog obtained in the forest. If he brought back this deer's carcass, the dog would not live long. This prohibition probably signified a "rite-de-passage" for a dog that achieved the ability to hunt a deer, a prowess which marked its adeptness to hunt even extremely strong male wild boar (*temanyit*).

9) Concerning Newly Acquired Dogs — Occasionally Punan Vuhang bought dogs with proven hunting prowess (*larkin*) from traders. They also bought puppies that showed indications of potential, especially the offspring of proven dogs. If the new dog entered the owner's shelter and urinated inside the shelter, it was a bad omen. Consequently, the owner had to return the dog to its original owner without any refund. If the dog remained with the household, the owner would die shortly after. On the other hand, if nothing happened to the owner, the dog would soon die.

Dog Healing Ritual

When the community broke any of these taboos, the dogs would lose their hunting prowess or even die. Frequently when chasing wild boar, they would fail to outrun the game, although in normal times this seldom happened. When no one had broken a taboo, but the dogs still frequently failed during hunting, the community would perform the following ritual:

The dogs' owner requested an old man to do this ritual; it was not necessary for a shaman to do it. In the evening, the old man made a fire, either on the platform of the shelter or on a stone in the camp compound. He burned a big bamboo with both ends of its internode intact. While he turned the bamboo for an even burning, he chanted to request the augury birds' spirits (*otu behok*) for assistance:

mut mulong tau,	Calling the right* *mulong*,
mut pee-it tau,	Calling the right *pee-it*,
mut legehek tau,	Calling the right *legehek*,
telajan vulei, iak assee tau.	Left *telajan* and *right *assee*.
	* (direction from the right)
mut dari kejian ahunya,	Calling them to restore the dogs,
mut dari ciu palik ahunya,	Calling them to rid the taboo,
mut bulunya latup, tovih latup bulunya palik ahu tei ovow,	Calling the bamboo's explosion to take the *palik* away,
gon kejian di tuai mulet ahunya tiu.	so that prowess returns to the dogs.

As the fire heated up the bamboo, the intense heat inside the bamboo tube produced a strong pressure. This caused the big bamboo to explode with a loud bang like a cannon. Instantly he chanted:

Nah! Tovih latup bulunya,	Nah! With this bamboo's explosion,
palik ahu tuei ovow,	the dogs' apathy goes away,
latup bulu mapat mirat ciu palik ahunyi	the bamboo explosion grabs and throws the dogs' apathy away,
gon kejian gon kelarkin nyatuei mulet ahunyi tiu.	so that the dogs' prowess returns to them.

Then the old man repeated (*pokolong*) the ritual, burning and turning the bamboo while chanting to request the augury spirits to continue offering their assistance:

mut behok duri kejian ahu dunah,	Calling the augury spirits to restore these dogs,
mut behok tulong ahu mek in larkin tiu.	Calling the augury spirits to help make the dogs adept again.
mut behok duri kejian ahu dunah,	Calling the augury spirits to restore these dogs,
mut behok tulong ahu mek in larkin tiu.	Calling the augury spirits to help make the dogs adept again.

The bamboo exploded again and immediately he chanted:

Nah! Tovih latup bulunya	Nah! With the bamboo's explosion
Palik ahu nyi tei uvow, tei ngakat	the dogs' apathy flees and is gone
Gon kelarkinnya tuei.	so that their prowess returns.

Next, he continued the ritual by tying a wooden hook (*gait*) to the bamboo that had exploded, and chanting:

gon gaitnya ngait kejian ahu yi,	Let the hook take hold of the dogs' ability,
ngait kelarkin ahu gon in larkin tiu,	hook the adeptness so that they become able again,
gon bavui ngajoh dei uvow,	so that the wild boar won't run away,
gon bavui ngajoh dei mojuk nek in mangin,	so that the wild boar will not run faraway upon pursuit,
gon igek-igek koh bak, beh makah in paung sok nya.	so that the chase will be short to allow the dogs to surround the wild boar from nearby.

With this, the ritual was completed. Early the next morning, the hunter would bring his dogs to hunt. At the beginning of the hunt, he chanted for favorable bird auguries:

pee-it tau,	right *pee-it*
mungulung tau,	right *mungulung*
telajan vulei,	left *telajan*
assee tau	right *assee.*

The call requested that these bird auguries fly from the favorable directions and so enable the hunter to hunt without any obstacles. Before long, the dogs would surround a big male wild boar. The success in out-running and surrounding the wild boar indicated that the dogs had regained their effectiveness. Usually the ritual successfully cured the dogs from the ill effects of taboo breaking. However, if the dogs failed to regain their ability, they were no longer useful, but were still kept and cared for until they died natural deaths.

When a hunter first returned to the camp with game, after his dogs had been made effective again, he had to treat the carcass with great care. Customarily, he did not cut the bindings and straps, but unfastened them slowly. The platform in the shelter where the hunter cut the carcass then became a forbidden place for all further cutting activities. For as long as the community remained in the camp, they had to refrain from cutting on that platform. Otherwise the dogs would become *palik* again.

The Punan Vuhang's Treatment of Hunting Dogs

Because of the importance of good hunting dogs, the Punan Vuhang treated their dogs extremely well.[1] They considered the dogs as their 'spears' (*ucuk*) without which, even if they could stalk close to a wild boar, they could not kill it. Based on this analogy, it is to be understood that even if there were an abundance of wild boar in the forest, it was extremely difficult to obtain game.

The Punan Vuhang fed their dogs food of good quality. Whether it was a season of abundance or scarcity, the dogs had their fair share of food at meal time.[2] When meat was plentiful, the dogs were fed large chunks of cooked meat before and after meal times. At times when the meat was barely sufficient for the household, the hunter would mix a little meat with soup and sago starch to feed the dogs. During periods of meat scarcity, a little soup was mixed with the starch to give flavor to the food. When no meat was available, they fed sago paste to the dogs.[3]

At meal times, the dogs were also fed. Household members would give pieces of meat or bones to the dogs. When someone took a chunk of meat that had skin and bristle attached to it, he or she would peel off the skin and give it to the dogs. Consequently, when the Punan Vuhang ate their meals, the dogs waited by their sides, hoping to be given some

[1] Today, the Punan Vuhang continue to treat their dogs very well, and they still practice selective breeding as described below.

[2] This contrasts with the Penan people who only feed their dogs upon the success of acquiring a wild boar at the hunting site. Consequently the Penan dogs are very thin compared to the stout Punan Vuhang dogs.

[3] During the lean period, the human community themselves lacked meat for consumption. When the pigs were extremely thin, the meat was so unpalatable that even the dogs refused to eat it. Both the human community and their dogs were very thin during this period.

skin.[1] As mentioned, in the forest, when a hunter killed a wild boar with his dogs, he cut open the abdomen and pulled out the internal organs to feed them.

Each household not only fed their dogs well, but also took very good care of them. At night, the dogs slept by the fireplace where huge logs of firewood (*okgong*) were continuously burning to provide warmth for them. When the night was very cold, kindling was added to the logs to make big flames to heat up the sleeping place. If there was no fire, the dogs would stare pathetically at their master, as if requesting fire. Out of concern and sympathy (*mahik*), he would make a fire for them. Some people gave blankets to their dogs for warmth and mosquito nets to keep them comfortable. When the day was hot, they carried the dogs to the river for a dip to cool them.

Another way the Punan Vuhang took good care of their dogs was connected to their belief that each person should symbolically own a dog for the benefit of the dog. Like human beings, dogs possessed spirits. The dog spirit was linked to a household member to ensure the dog's spiritual well-being. The age of the human owner was unimportant and dogs were even given to babies to maintain a relationship between a human and the dog.

Selective Breeding of Dogs

The Punan Vuhang believed they could identify a dog's hunting prowess by looking at the location of the dog's nipples. Good dogs possessed certain nipple patterns, they thought. Unless they could hunt, dogs were considered useless so the community practiced selective breeding of the best females and males to achieve a better chance of producing good dogs.

When a good female hunting dog was in heat, its owner would request that an owner of the best dogs lend a male to sire the offspring. Such a dog would give the female the best potential to produce superior pups. However, owners who had very good males did not freely allow their dogs to mate with any females. This control of breeding was a complex matter that was connected to the selective process of choice of hunting grounds. Theoretically, the fewer the number of households that owned hunting dogs, the more choices of hunting grounds there would be. Conversely, when there were more hunting groups, the availability of better hunting grounds became limited. This was particularly significant when wild boar were scarce and few hunting grounds were suitable for hunting. So, to gain better access to more hunting grounds, dog owners limited their dogs' mating partners, and would only allow their dogs to mate with dogs belonging to closely related households unless there was some item of reciprocity that another household had to offer.

Kinship relations and past reciprocal exchanges between the female dog's household (the receiver) and the male dog's household (the provider) determined the ability to obtain a good male dog for mating. This meant that the receiving household had in the past given a male dog to mate with the female dog of the provider, or given them a puppy.

[1] Probably, this was one of the reasons why the Punan Vuhang did not remove the skin or fur from the meat when they cooked it. During meal times, a person peeled the skin off and gave it to the dogs.

However, this rule was discarded when the community experienced a lack of dogs due to starvation or diseases, so that the dog population would be maintained.[1]

To ensure that only the selected dog mated with the female in heat, both were kept in the family area of the female dog's owner. This prevented other dogs from interfering with the mating, or fighting over the female. After the heat period was over, the dogs were allowed to freely mingle again. When the female gave birth, a person skilled in identifying good dogs made the selection. The owner only kept the puppies that possessed the desired location of nipples, and abandoned those that did not (see Puri 2005:245-252 on how a good dog is chosen and the characteristics of good and bad dogs). Before the mother dog suckled them, the unwanted pups were removed, as once the Punan Vuhang allowed the puppies to be fed by their mother, the Punan Vuhang developed an emotional attachment to the pups. If unwanted dogs had been kept and grew up, they would be useless and would strain the community's resources during lean times. To forestall forming such attachments, the owner immediately took unwanted puppies across the river and abandoned them in a distant area. Removed from the warmth of their mother and food, the pups would immediately die.

Through this selective process, only five or six pups were kept, and at times only one or two. If there was only one pup chosen for training, the owner retained the right to own it. It would grow up to be a very good dog with great potential. This was most likely due both to its breeding and the lack of competition for its mother's milk, thus providing all the nutrients it needed to achieve healthy growth. If there was more than one pup, the male dog's household was given one in return for allowing it to sire the pups. Then, depending on the number of pups kept, the owner would reciprocate to those households who had given him pups in the past. After that, the pups were shared with closely related households based on the Punan Vuhang food sharing system of giving priority to siblings' households. For a household to fully reciprocate to all the households to which it was indebted, it often took several dog generations to acquire enough pups to give away.

Although the custom of observing reciprocity in giving away the puppies followed the above sequence, the actual distribution depended on the immediate need of the households that held reciprocal rights to the pups. If a household had no need for the dogs, they would bypass this round of reciprocity in favor of a future return. There was no time limit, and future generations would be obliged to honor it. Due to this longterm reciprocity, it was the task of the hunter's spouse to determine the distribution of pups because the practice of uxorilocal post-marital residence made the man unfamiliar with the earlier exchanges that had taken place between his spouse's household and others.

The Punan Vuhang's selection of puppies with favored traits and abandonment of those that did not show promise of hunting ability resulted in the production of only effective hunting dogs. Also, the selection of adult male and female dogs for breeding of proven adeptness established several generations of dog pedigrees from different dog "genealogies." For that reason, only good hunting dogs were found in the Punan Vuhang community. All of them, both male and female, were capable of obtaining wild boar, a fact

[1] On the other hand, when the number of dogs in the community was sufficient, female dogs were not allowed to mate.

recognized by distant communities.[1] Informants mentioned that they continue to do pup selection, although this did not occur during my fieldwork.

Hunting Without Dogs, *Kusi*

The method which was used by a hunter to hunt alone (*kusi*), without the aid of hunting dogs, to track a wild boar was an esteemed hunting practice among the Punan Vuhang. Hunters, however, only did this during the peak wild boar migration season which corresponded with the peak of the *Anisoptera kostermans* (*tason*) ripening season. During this period, the ripened fruits that dropped to the ground provided plentiful food for the wild boar to consume. This abundance caused wild boar to concentrate so much on foraging that they did not detect a hunter stalking close by. While most hunters practiced *kusi* on some wild boar, only young men ventured out into the distant Bahau watershed to hunt the fattest boars found in their territory. The community treated this distant hunting as a sport. Married men, however, found it sufficient to hunt fat wild boars that were easily available within the river system where they lived.

Kusi hunting required great patience and skill to stalk a boar without alarming it. A hunter usually had to go a distance from his camp to forest grounds that had not been disturbed by hunting dogs. Without any disturbance to their foraging, the wild boar focused only on eating. As the hunter explored for signs of a wild boar, he searched for a fruiting *tason* tree so that the chance of encountering boar was greater.

While exploring, the hunter had to walk against the breeze that blew down from the cool highlands. By going against the breeze, his scent would be blown away from the direction in which he was heading. Otherwise, his scent would be carried forward, towards the boar if it were foraging there, thus alerting it.

When the hunter saw a fruiting *tason* tree, he quietly walked towards it while ensuring that the breeze was blowing against his face. If he saw a wild boar foraging there, he took extra precautions as it was extremely sensitive to approaching sounds. To minimize breaking twigs on the ground that could produce a cracking sound, he tiptoed (*tupunying*). When he got into visual range of the boar, he hid behind a boulder or big tree. He moved from one hiding place to another, always closer to the boar, but remained unseen as long as possible. As he approached nearer to the boar, he finally could not avoid being seen. However, for as long as the game did not see the hunter's eyes and face, it would not become alarmed. Each time that the boar looked at him, the hunter froze.

Eventually he got into spearing range at about thirty feet away from the boar. He positioned himself to stand sideways (*lingit koh*) to the wild boar so that his face did not get directly into the wild boar's front view. Also, this position allowed him to throw the spear into the wild boar's chest. Using his spear shaft to conceal his eyes from the boar's view, the hunter hurled (*nokjou*) his spear at the most vulnerable parts of its body (*bavang*, *sung* and

[1] Throughout my visits to various longhouse communities along the Balui River, I was told of the superiority of Punan Vuhang dogs in hunting compared to the dogs owned by other communities. In my fieldwork at a Kayan longhouse in 1989, I noticed that there was no control of dog breeding. The dogs were let out in the open, including the female dogs in heat. In terms of dog hunting prowess, not all dogs were good even though the Kayan did practice pup selection based on the nipple layout pattern.

bitong). The spear could penetrate deeply and often pierced the boar's heart and lungs, killing it instantly.

However, if the aim was not accurate, the spear would only produce a deep wound, not sufficient to cause instant death. The boar would then instantly flee and the spear would be dislocated by its running. Blood would ooze from the wound and leave a trail for the hunter to follow. After a short distance, the blood trail would lead to a pool of blood. Then there would be less and less blood until there was no more trace of it at all. The hunter then would look for flies and ants that became very active along the wild boar's trail, as well as looking for fresh tracks that the wounded wild boar had trampled. Following the trail, he listened intently for the brushing sound of swaying branches caused by the staggering boar. If he heard this, he was very close. He tiptoed towards the game and upon reaching spearing range, he again hurled his spear into the boar's vulnerable spots. Simultaneously, he lunged toward the boar to pull out the spear and thrust it into the boar again, and sometimes even again, until it dropped to the ground.

If the killing site was very far from the camp, which was usually the case, the hunter had to lighten the weight of the carcass. He sliced off the thick fat from the carcass for transportation back to the camp. He put the blood that had resulted from internal bleeding, and the brain, into the pig's stomach. The blood and brain were used for the delicious *buyun* dish (see note 3, page 85). After stitching up the carcass, he carried the boar on his back like a backpack.

When he approached the camp, he blew into his palm to make a *nyupopok* "popok popok" sound. This sound signaled his success in getting a wild boar by the difficult *kusi* method. As usual, the children made the cooing sound (*puklung*) to greet his return.

Success in *kusi* hunting enhanced a man's social standing as a good hunter. This differed from hunting with dogs which relied on the dogs' prowess to determine the hunter's success. In contrast, *kusi* solely depended on the hunter's ability to track and stalk close to an extremely sensitive wild boar. His accuracy in spearing the boar's vulnerable spots also determined the number of boars that he could kill. If the spearing produced an instant death, he could kill many boars in a single trip. In comparison, a hunter who could only inflict wounds had to track the wounded animal before he was able to kill it. Consequently, the number of wild boars that he could kill was a measure of his hunting mastery. In addition, how fat the pigs were that a hunter obtained also indicated his skill. This was because the fattest wild boar were mainly adult males, which were difficult to stalk due to their being very alert. Because of the status gained in acquiring big fat boars, young men who did not have much responsibility in their households liked to go to distant areas to search for big and fat wild pigs. Due to the distance, they would bring back only slices of fat of one or two carcasses, but retain the pigs' tails to show the number of boars that they had killed.

Wild Boar

Because of the importance of wild boar to the Punan Vuhang in the past, I take up here some issues related to wild boar hunting. The first section is on the former sharing of

wild boar meat.[1] The second describes varieties of wild boar; information that was vital to the hunters' survival as the seasonal availability of a particular kind of wild boar determined the type of hunting methods as described above. The last section is on the ecological perspective of wild boar based on the Punan Vuhangs' former worldview, which serves to explain the importance that wild boar had for them.

Sharing Wild Boar Meat

When a hunter killed a wild boar on his own, he held rights to the whole carcass and his household had the absolute right to share and distribute it. This is in contrast to some hunter-gatherers, particularly in Australia, who practice demand sharing. In demand sharing, the hunter loses all rights to the game, and the distribution process is initiated by persons other than the hunter (Testart 1987:287).[2] When the Punan Vuhang hunter brought back a carcass, however, either he or his spouse cut up (*sapah*) the boar and distributed (*tulat*) the meat to the community. The close kinsmen (*paknak*) who made up the primary sharing network were given portions of the chest, waist and offal, and small portions of hind and forequarters, and limbs. There was a prohibition against giving offal to non-kinsmen. All of these kinsfolk, including the hunter himself, were given an equal share of meat. The amount given did not vary according to the number of household members. Even if the household had only one member, the amount of meat given would still be the same. However, usually smaller households would inform the hunters not to give them so much meat, and after a few such requests, their share would consistently become smaller than the others. Also, although the share should have been equal, a generous hunter would give more meat to households that had many mouths to feed. When a sibling also had obtained game, each hunter would inform the other not to give him any meat since they both had extra. Nonetheless, they still gave each other a little as a gesture. Eventually, after the distribution, if the game was a mature pig, the remaining meat would still fill a large two-feet diameter pot, an amount sufficient for two or three days' meals.

Distant kinsmen and non-kinsmen were only given smaller portions from the hind and forequarters, and limbs. As mentioned, kinsmen were also given these portions. Because the number of households at this sharing level was large, the amount of meat that was distributed to each household was only a little. When the game was a mature boar, the share was about three inches thick and six inches long. If the game was small, the share could be half of that, barely enough for those households' consumption, but served as a token of generalized reciprocity.

[1] I deliberately separate sharing wild boar meat from the main sharing section to provide a continuity of the description. In the sharing section, I provide more details, including the rights of hunters who participate in a hunt (see page 133).

[2] Peterson (1993:860-874) discusses demand sharing's role in the constitution of social relations in egalitarian societies. According to Peterson, other hunter-gatherer people who also practice this system include the Nayaka (Bird-David 1990); Guayaki (Clastres 1972:170); Batek (Endicott 1988:117); Dogrib (Helm 1972:80); Kaingang (Henry 1964:98, 101); Siriono (Holmberg 1969:88, 155); and !Kung (Marshall 1976:288, 303, 310). This system is also found in Borneo among the Penan Belangan (Chan 1995:118-119), although the hunter is given a bigger portion than the rest of the community. Since the Punan Vuhang do not practice this system, I shall not dwell on it here.

The hunter kept the head of the wild boar and would cut it for cooking two or three days later. Usually by then, the raw flesh had decayed and produced a strong odor and pungent taste. When the hunter did not obtain any wild boar in the days immediately after the hunt, the head provided a substantial meal. More often than not, however, another pig was obtained on the third day of hunting, and the head was thrown away or given to a household that lacked meat.

Varieties of Wild Boar

Among all types of animals found in the tropical rainforest, wild boar was the most important protein-based food resource for the Punan Vuhang.[1] Besides providing the most meat, it was the only large animal that was and still is found in abundance in the forest. Also, its meat has the highest fat content, a food component of vital importance to the hunter-gatherer community. When wild boar was not available, Punan Vuhang said that they were hungry, despite having an abundance of other foods. They did not really feel hungry; in fact, an informant called the situation *okjob sanik* – loosely translated 'happy hungry' although another informant disputed that anyone could be happy during hungry times. As the wild boar was such an important animal, I will describe it in considerable detail.

The Punan Vuhang recognized two types of wild boar (bearded pig) with distinctively differing characteristics, although they were of the same species (*Sus barbatus barbatus*). The first type was the sedentary wild boar that did not migrate and was available throughout the year. The other was the migratory wild boar, which was seasonal and only came to the Punan Vuhang territory during a major fruit season.

Sedentary Wild Boar

The sedentary wild boar remained in an area. The community believed that the same group of wild boar occupied a territory for a considerable time without moving into distant areas. In the sedentary wild boar category, there were three types: the circling wild boar (*bavui celeyon*); the resting wild boar (*bavui luek*); and the fruit-foraging wild boar (*bavui tone*).

The first two types were found in locations experiencing food scarcity, especially during non-fruit seasons. They mainly ate the fruit of the *Eugeissona* sago (called the *kavangoh*) and the fig (*lunuk*) that bore fruit throughout the year. They also foraged for any other kind of food (*angkun manan-manan*), for example, earthworms and tubers.[2] When nothing else was available, they foraged on the tubers of the *logak*, *long* and *tatang babang*. When the wild boar came to rely on these three types of tuber, they became extremely thin. If they had to depend on this diet for a long period, they became so thin that their meat was unpalatable not only to the human community but even to the hunting dogs. This extreme emaciation, however, rarely occurred as only an especially long period of drought would

[1] For a more comprehensive account of the wild boar or bearded pig, see Caldecott (1987:64-85).

[2] Caldecott (1987:66) reported that the diet of the bearded pig consists of roots, fungi, invertebrates in the soil and rotting woods, small invertebrates, carrion, and fallen fruits.

cause such an extreme paucity of food. Such a very long drought usually happened only once every several years.

The foraging wild boar, (*bavui tone*), on the other hand, was found during the minor fruit ripening season in which only fruit trees in some areas bore fruit.

Circling Wild Boar (*bavui celeyon*)—These wild boar foraged from one place to another and then returned to an area in which they had foraged earlier. Thus, they fed in a circle within the confines of a territory. When hunters encountered these boar, they knew they could obtain more in adjacent territories. Following that, they hunted even further away from the first hunting ground. Then, when the animals had made a circuitous loop and returned to previously foraged areas, the surviving pigs could still be hunted.

Resting Wild Boar (*bavui luek*)—The resting wild boar foraged over a large territory. They did not move away to forage in other places unless they faced danger, and if so, they did not return to the same area again. The resting wild boar, as the name implies, were wild boar that went up a mountain to rest. They were reclusive animals that were solitary or accompanied by only one other pig. After scavenging, they retreated to a high place faraway from their foraging sites to avoid predators that might have tracked them to their resting ground. They were extremely sensitive and alert while resting, and fled instantly when they heard any sound of something approaching.

Another important characteristic of this boar was that it fled into a very remote area when threatened. A hunter knew that his quarry was a resting boar when he failed in his first attempt to hunt it and his dogs could not track it in adjacent territories. The hunter could only hunt down a resting boar in a location very far from the first place. As a result, during the lean period when signs of wild boar were rarely found, hunters had to go very far away to search for these resting boar.

Foraging Wild Boar (*bavui tone*)—Informants mentioned that during minor fruit seasons, in which only certain areas had fruit-bearing trees, sedentary wild boar went to these places to forage. If the Punan Vuhang happened to come across a site with these fruit-bearing trees, they traveled there to set camp and hunt.

Wild boar, being diurnal, foraged both day and night. During the daytime, they foraged in the morning and again in the afternoon and rested in between. While foraging, they were constantly on the move exploring and consuming food. This was the best time for hunting them as their frequent movement allowed hunting dogs to track them more easily. During the resting period, they went up to highlands to avoid detection by the hunting dogs. At this stage, a dog had to rely totally on its ability to scent the tracks that led to the wild boars' resting ground, and the long distance from the foraging grounds to the resting sites made it difficult for the dogs to track them. Consequently, hunters only brought their dogs for hunting during the early part of the day when the boar were on the move. During a minor fruit-ripening season, on the other hand, a hunter would go to check for the presence of fresh wild boar tracks around fruit-bearing trees. As ripened fruits continued to drop, the wild boar tended to return to forage. When the hunter returned to the site with his dogs the following day, the wild boar would be tracked down by the dogs.

Migrating Wild Boar

The Punan Vuhang believed that the other class of wild boar, the migrating wild boar, originated from downriver during the fruit ripening season and returned to their place of origin after the season was over. Because of this, the Punan Vuhang called these pigs 'returning wild boar' (*bavui ulik*). They only appeared during the major fruit season to take advantage of the abundance of fruit. The Punan Vuhang also called these migrating wild pigs *bavui murik* because the direction of their movement was upstream (*murik*), hence the term 'upriver migrating wild boar' (*bavui murik*).[1]

Upriver Migrating Wild Boar (*bavui murik*)—The migrating wild boar that arrived in the Punan Vuhang territory had distinctive features that differentiated them from the sedentary wild boar. Besides being extremely fat, they possessed smooth soft fur as compared to the rough bristle of the sedentary wild boar. The fur of the young boar was thick and clean. The extreme obesity of the migrating boar resulted in their becoming almost white, while the local boar were a dull gray. As mentioned earlier, their fat measured up to eight fingers thick compared to the maximum thickness of three fingers for sedentary wild boar.

The *bavui murik* traveled in big packs into the Punan Vuhang territory. As the wild boars were not familiar with the presence of human predators, they simply moved by following their long-standing migration routes, some passing close by the Punan Vuhang camps. In contrast, sedentary wild boar, familiar with human predators, never went near Punan Vuhang camps.

Myths were told of the origin of the migrating wild boars:

The Man Who Married a Wild Boar

According to this story, long ago, during the wild boar migration season, a man went *kusi* hunting. He speared a wild boar, the spear shaft broke and the spear remained imbedded in the boar, but it managed to survive. The hunter followed the wounded boar and eventually came across a big lake with an island in the middle. The wild boar swam across and the man followed suit. When he reached the island, he found it populated by a human community. He visited the headman, was treated well and was then told of a very sick woman. He was asked whether he could help heal her. The hunter agreed to help and when he went to the woman, he was surprised to see his spear imbedded inside the woman's waist. He pulled it out and eventually the woman was healed. Being too polite to ask after the spear, he forgot the matter.

They fell in love and married. One day, the hunter's wife told him that it was the fruit season and the entire community on the island would cross the lake to eat the fruit. The wife asked him to remain but he insisted on following. Then she told him that they were all wild boar. He refused to believe it and was told when they swam across the lake, they would step over a fig root (*lunuk*) and then they would turn into wild boar. The transformation from human beings to wild boar took place

[1] Along the Balui River, the Kayan call these pigs 'river-crossing wild boar' (*bavui nyatong*), as they cross the river in great numbers during their migration. There, hunters hide at certain spots on the river bank (*sidah*) with their boats while waiting for the wild boar to swim across the river to continue their migration. From the perspective of river flow, the wild boar travel from the left side (true lefthand bank) to the right side of the Balui basin. Crossing the river, they head toward the tributaries that flow from the right into the Balui basin. See Puri (2005:252-262) for a detailed description of this activity among the Penan Benalui and Kenyah Badeng of East Kalimantan.

as predicted, and the man tried to do the same by stepping on the root but he could not turn into a wild boar. So the wife reminded him of his human origin and that he could not turn into a wild boar. She explained that they were human beings only when they were on the island but were transformed into wild boar to forage on the abundant fruits during the major fruit season. That was why the Punan Vuhang believed that wild boar are actually spirits that came from another realm.

The Mother Pig and Migrating Wild Boar

During the major fruit season, the mother pig (*hinan bavui*) asked her children to travel upriver to forage on the abundant fruit. She told them that they would face danger as they would be killed by human hunters and their dogs. However, they should not worry about their death, as she would give life back to them. She advised the wild boar to run toward a stream whenever they were being chased. If they were killed in a stream, their blood would flow to the river mouth and there she would turn the blood back into a wild boar. Consequently, according to Punan Vuhang, wild boar always run toward a river upon being chased. Also, because the mother pig gave life to all the dead wild boar, the migrating wild boar can never be over-hunted.

The Protector-Spirit traveling with the Wild Boar Migration

During the wild boar migration, the Punan Vuhang believed that a protector-spirit (*man bavui*) traveled with the boar. Besides being seen by shamans, the spirit left a trail of clay on the trees along his walking path. When that happened, the Punan Vuhang would not go hunting for fear of the spirit's retaliation. A day or two after the spirit had traveled past their territory, they could resume hunting.

Warfare Between Wild Boar and the Enemy Spirit of *Otu Laput Lanum*

During the migration season, hunters frequently came across juvenile wild boar carcasses in the forest. The Punan Vuhang believed that the wild boar were killed by the wild boar's archenemy (*otu laput lanum*). In their spirit form, the wild boar always defeated the enemy spirit, but become helpless as wild boar. That also was the reason Man Bavui traveled with them to protect them. However, he could not protect those which were migrating far behind him.

Pact Between Rigai and the *Otu Laput Lanum*

As the enemy spirits *otu laput lanum* traveled to attack the wild boar, they would also kill any human beings that crossed their path. To prevent this, as Punan Vuhang hunters enter into the forest, they chant that they are the descendants of Rigai who made a blood-pact with the spirits. With that, they believe they can be recognized by the spirits and will thus be safe.

The arrival of the wild boar migration followed the end of the edible fruit season when fruit that was inedible to human beings, especially fruits of the dipterocarps (for example, *Anisoptera spp., Dipterocarpus spp.*) began to ripen. The Punan Vuhang associated the ripening of the *bua' balong* and the *bua' ehyin* growing on the mountains as an indication of the impending arrival of the boar migration. When they arrived, the dropping of the ripe *bua' tason* (*Anisoptera kostermans*) provided food for the massive numbers of wild boar.

The sighting of a pair of big wild boar hoof prints was taken to indicate the actual arrival of the migration. The two sets of prints were the marks made by two huge male boars (*bavui duo po'longan*). This pair of wild boars went ahead of all other migrating wild boars and so this sighting commenced the beginning of the migrating wild boar hunting season. Hunters who owned hunting dogs then went to the major migration routes, each hoping to be the first person to return with a fat boar.

The first person to return with a fat wild boar, besides the usual cooing greeting sound of *puklung*, would be greeted with a loud announcement that the fat wild boar had now arrived. This thus marked the beginning of the seasonal enjoyment of food abundance. Everyone became very excited and came to inspect the carcass, poking his or her fingers through a slit on the boar's back to feel how thick the fat was. Children hugged the carcass and the men carried it to feel the weight bearing down on their shoulders.

When the excitement was over, the hunter's wife cut up the carcass, distributed the lean meat and then processed the fat into lard. After the oil was drained from the fat and made into lard, what remained was dry fat (*luhieng*). Members of the community came to savor the delicious dry fat. Then, when the lard was fully cooked, it was distributed to the various households in the community.

After this first wild boar, every hunter who returned had his game inspected to determine how fat it was. If a wild boar was exceptionally fat, that is, up to four or more fingers thick, the community would marvel at the carcass. After that, the wild boar would be cut up, processed and the lean meat distributed. After processing the fat into lard, each household was obliged to distribute the *luhieng* and lard to the entire community. Within the next few weeks, there was no longer any necessity to distribute food, as every household had its supply of fresh meat and fat.[1]

During the first days of the hunt, if several very fat wild boars were obtained at the same time, the community celebrated the arrival of the wild boar with the *lolong ook* festival. The meat and the fat were minced together with sago shoots (*langik*) and then mixed with sago starch (*lug*). Then they stuffed the mixture into a bamboo cylinder (*bulu hor*). The delicacy (*lolong ook*) was eaten by the assembled community at night and then the community listened to the singing of the *nyangen* ceremony conducted by the shamans (see page 189 for a brief description on the *nyangen* ceremony).

Following the major migration routes, the initial arrival of wild boar in the Punan Vuhang territory was concentrated in downriver areas, especially in the Bangan-Bahau River system. For the first two weeks of the hunt, hunters could not light fires at these locations as the smoke would deter not only approaching wild boar, but also those following behind.

After these initial precautions, the entire community set up camps at locations close to the major migration routes. The camps were also near to sites with abundant sago resources so that the community could cook a variety of dishes consisting of starch, lean meat and fat. As the wild boar moved through the territory, hunters did not have to go far to

[1] Due to just a few pots being owned by a household, usually only one and at the most two, the amount of fat that could be processed was limited to about ten liters per day. Per season, the amount processed could be up to three hundred liters.

kill game. During an average day, a hunter could obtain up to six boar, but these were usually young pigs that were easily pursued with the hunting dogs.

The Punan Vuhang found it easy to hunt these wild boar as every day new groups of boar arrived to forage in the surrounding territory. These animals, having traveled a long way without encountering human predators, became easy targets for hunters. Consequently, hunters were able to make short hunting trips to obtain a few wild boars almost every day for the entire duration of the wild boar migration season, a duration that ranged from one to two months, depending on how long the fruit season lasted.

There were four major migration routes in the Punan Vuhang territory, with all wild boar migrating upriver against the river flow of the four main river systems. These routes were the Danum, the Linau, the Kajang, and the Bahau Rivers. All these routes led into the Kalimantan part of Central Borneo, which was a vast, sparsely inhabited area. The virgin forest there produced such a rich abundance of fruit that the Punan Vuhang believed it to be the meeting point for all migrating wild boar.

The wild boar that migrated through the Danum and Linau watershed eventually converged on the Peluan watershed. The Peluan is a tributary of the Linau River that joins the Danum watershed. From this convergence, the migration moved on into the Iwan River in Kalimantan. At the Peluan, there were so many wild boar that the Punan Vuhang had to camp on hill slopes that were too steep for the animals to climb. On the Kajang, the wild boar moved on to the Kihan and the Nyamok, and those on the Bahau moved on to the Lesong, both tributaries of the Iwan River.

The thickness of the fat varied among the wild boar from the four migration routes. Most wild boar from the Danum, Linau, and the Kajang had fat that measured up to three fingers (*ben telo*). On the other hand, the boar from the Bahau were much fatter, with their fat measuring up to four and five fingers (*ben pat-ben limo*), and some *temanyit* males had fat even up to eight fingers thick (*ben heyan*).[1]

Many young men, given the incentive of the high-quality fat boar, made expeditions into the Bahau without their dogs to hunt in the *kusi* manner. For the sheer thrill, each person attempted to kill as many boar as possible to test his hunting and stalking skills. Meanwhile, the rest of the community remained at the other areas where there were many wild boar to satisfy their needs.

Following the movement of wild boar from down to upriver, the Punan Vuhang initially camped at downriver locations. They gradually moved camps to upriver areas as they followed the migration. In each campsite, the main activities were hunting and processing the fat of the wild boar into lard. Each household put the lard inside containers and buried them

[1] An assessment of the migration routes that these four differing wild boar groups had earlier traveled helps explain this phenomenon. The wild boar that moved into the Danum, Linau and the Kajang passed through river valleys that contained agrarian human settlements. The farmers had converted considerable tracts of forest lands into farmland along the rivers and the main tributaries. While most land had regenerated into secondary forest, the shifting cultivation system that continually used land that had regenerated did not allow trees to mature into fruit bearing trees. Consequently, when the wild boar passed through secondary forest land, there was little fruit for foraging. In contrast, the Bahau wild boar originated from a vast primary forest land that was little disturbed by human activities. The wild boar had a continuous supply of fruit for foraging as they traveled across this land, allowing them to acquire very thick layers of fat.

(*oku lanye*) in the banks of small tributaries. In lean times, they could return to these camps to retrieve it. Informants mentioned that the lard buried in the cold underground could last for more than a year. This Punan Vuhang practice of food preservation is in contrast to Sellato's observation of the Punan:

> The almost total lack of any possibility of long-term preservation of foods means that every edible produced must quickly be consumed. Many writers have described how the Punan gorge themselves with food when it is abundant and go empty thereafter if food is scarce (1994:148).

During nomadic times, when the community lived in the Kajang valley, they first camped at the Bangan, a major tributary of the Bahau that meets the Sengayan, a tributary of the Kajang. Then they camped at the Lumunung watershed. After that they moved into the Betla'up of the Kajang to hunt the wild boars that migrated into the Kajang. At the Betla'up, there was abundant sago which was used for the *lolong ook* celebration. The *lolong* dishes were prepared to celebrate the season of abundance. As the wild boar migration moved on, the Punan Vuhang camped in the Kajang headwaters at the Batu Ayok, below the mouth of the Sepayan.

Following that, they went into the Linau to continue hunting, and finally camped at the Peluan. If the community had been in the Linau since the wild boar migration began, they would usually camp at Laput Tanyit, Laput Pejakah, Vuhang Panyin and Vuhang Belawan, although they might also camp at various other locations. Eventually, they camped inside the Peluan tributary, the site of the convergence of the wild boar from the Danum and the Linau before they migrated into the Kihan of Kalimantan.

The Punan Vuhang did not pursue the wild boar beyond this point into Indonesian Kalimantan because that was the territory of the Punan Kihan. Just as the Punan Vuhang remained within their territory, the Punan Kihan did not cross the mountain range to hunt the migrating wild boar on the Sarawak side. Consequently, once the migration moved on to that part of Central Borneo, the season of abundance was over. Then, the Punan Vuhang had to revert to hunting other animals, especially the sedentary wild boar and medium-sized tree-dwelling animals.

Returning Wild Boar (*bavui ulik*) — The returning wild boar, *bavui ulik*, as the name implies, were wild boar that were on their way back to their original homeland after foraging in the Kalimantan part of Central Borneo. These wild boar had been foraging forest fruit for several months in the vast undisturbed forest and returned via the same routes as their upriver migration.

These wild boar usually passed by the Punan Vuhang territory during the flowering season, that is about the fourth month of their synchronized calendar. During the entire period of their return, little food was available and gradually they became thinner and thinner. Nonetheless, the animals that passed by the Punan Vuhang area were not as thin as the sedentary wild boar, as they had had an abundance of fruit for a long time in Kalimantan. These wild boar traveled at a fast pace as there was no food to prolong their foraging. Therefore, the Punan Vuhang had only a short time to hunt them.

Wild Boar Population: The Ecological Perspective

The size of the sedentary wild boar population was determined by the timing of the major fruit season. To better understand this, it is important to consider once again the Punan Vuhang synchronized calendar. According to this, the flowering season marked a change in the biological behavior of all animals, including wild boar. The extensive flowering throughout the forest induced the female animals to come into heat which then resulted in a mating season. During this period, lasting for about a week, hunters frequently heard the sound of wild boar howling and some even saw wild boar mating (*popoya*; *papangab*). When the female boar were in heat, the male boar (*temanyit*) developed swollen chins (*lovangoh irab*), a condition the Punan Vuhang called *bavui maton*.

During this time, the male boar became extremely fierce (*mesek'en*). They posed great danger to hunting dogs as they tended to attack the dogs with their brute strength and long sharp tusks, and they even attacked hunters. Consequently, only the bravest hunters hunted during this dangerous period. However, only those brave hunters who also owned hunting dogs skilled in avoiding the boars would do so. A week or so later, the swelling on the male boar gradually subsided and their fierceness began to mellow. After that, the dangerous situation was over and all hunters resumed hunting again. At the same time, the migrating wild boar which had earlier moved into the headwaters were on their way to return to their places of origin. These returning wild boar also provided game for the hunters to hunt.

Not long after, most female wild boar of the sedentary type hunted by the Punan Vuhang were pregnant with fetuses (*bertayit*). The Punan Vuhang considered the fetuses a delicacy and they encouraged young children to eat them. Gradually, the flowering season progressed into the early fruit season. From the size of the fetuses they obtained from hunted boar, the Punan Vuhang could predict the time of seasonal birth of piglets. Soon after, hunters frequently obtained newly born piglets (*kekah*). In each hunt, they killed a few piglets after the mother had fled, leaving behind the defenseless piglets. These piglets remained within the surrounding area and as they did not know how to escape, they became easy prey to the dogs.

During this period, hunters frequently came across wild boar tracks (*ivah*) with different sets of big and small hoofprints made by a horde of female wild boar and young piglets. Some tracks contained a bigger set of prints made by a male wild boar that accompanied the piglets and the mother. The Punan Vuhang called this sighting of several sets of hoofprints *nyumuwak bavui panyin* (*nyumuwak* means 'sighting' and *panyin* is a group of animals).

With the progress of the fruit ripening season, the piglets gradually grew into the size of a man's thigh. When the mature fruit season began, the overripe fruit began to drop, providing much food to the increased wild boar population. With the availability of this abundant food, the piglets began to wean from their mothers. The Punan Vuhang called these young piglets *urak* in distinction to the *kekah* that fed on milk. Eventually the young boar (*urak*) gained independence and began to forage on their own, as indicated by single sets of small hoof prints. In areas with more fruit where big groups of wild boar foraged together, the young *urak* boar returned to join their mothers. At this stage, hunting dogs focused their pursuit on the smaller and weaker young pigs while the stronger mother boar

fled away. As the young pigs quickly matured, they soon became capable of running from the dogs, and only one or two young boar would become the dogs' prey.

Over time, as the sedentary wild boar fed on the bountiful fruit, they gained a thin layer of fat beneath their skin. By the seventh month, more and more fruit began to drop, providing much food for the wild boar. Then the *Anisoptera Grandiflora* (*manator*, called *bua' upak* when fruiting), which contained much fat, began to drop. As they continuously consumed the fruit, the wild boar's muscles fattened and their whole backs acquired a slightly thicker layer of fat. The Punan Vuhang found the fatty meat of these wild boar delicious (*bavui jian kaman*). Compared to the very coarse lean meat which had a very low fat content, the rich meat had a soft texture and a sweet taste.

From the eighth month onwards, the edible fruit season ended, but this also marked the beginning of the inedible fruit season of the dipterocarp family and the arrival of the migrating wild boar. Among the principal fruits that the wild boar consumed was the oil-rich *Anisoptera kostermans* (*tason*). Its texture was almost like pork lard and it was much favored by wild boar. They concentrated their foraging on this fruit as it was found in proliferation in the forest. After a month of continuous feeding on the *Anisoptera*, they began to acquire a layer of fat up to one or two fingers thick (*ben ji* or *ben duo*). As the sedentary wild boars continued foraging, they gained fat measuring up to three fingers thick (*ben telo*).[1]

A little more than a month later, the wild boar began to become much fatter. The Punan Vuhang considered this meat too fat for their liking. After only consuming a little of this fat meat, they found it monotonous (*ingon*). The fat content was so high in the meat that during cooking much of it dissolved into a layer of oil. Not only did the Punan Vuhang become fed up with the meat, even the dogs consumed only a little of it.

For as long as the dipterocarp species' fruit was bountiful, both the sedentary wild boar and migrating *bavui murik* were found foraging together, without either type dominating in a particular area. In the tenth month, when the fruit season was almost over, only a little fruit was left on the trees. The migrating wild boar then continued their migration to the headwaters and onwards to Central Borneo. As their name implies, the sedentary wild boar remained behind to forage on the fruit remnants.

Gradually, food became scarce, and the wild boar then began to rely on any food they could find. Since the wild boar had been very fat from several months of heavy fruit consumption, it took them about four months to shed their fat. Then, the animals had to go through a period of food shortage until the fruit ripening season of the following annual cycle. Keystone species that fruited throughout the year and a variety of other foods sustained these sedentary wild boar.

When very little food was available for foraging, these pigs were difficult to find and the Punan Vuhang then turned to using blowpipes to hunt tree-dwelling animals and birds, and to trapping ground-dwelling animals.

[1] However, they could never gain as much fat as the migrating wild boar which arrived to forage on the abundant *tason* fruit. In comparison to the sedentary wild boar that only foraged on the dipterocarp fruits for about two months, the migrating wild boar consumed this fruit for several months throughout their migration journey. Consequently the migrating boar gained a very thick layer of fat of between four to eight fingers (*ben heyan*).

Blowpipe Hunting, *Mupit*

Blowpipe hunting (*mupit*) was the second most important method of hunting, after hunting with dogs. The Punan Vuhang hunted with blowpipes most of the time when wild boar were not available. They hunted a great variety of game such as tree-dwelling animals and birds, and during lean periods, small-sized game and squirrels. Although there was not much meat from small animals, it did help sustain the hunter's household.

Blowpipe hunting used three basic components: poison (*takjem*) to kill the game; darts (*takgeh*) that both delivered the poison and penetrated the animal to activate the poison; and blowpipes (*upit*) that propelled the darts toward the target. With the dart inserted inside the bottom of the blowpipe, the man blew a strong burst of air into the pipe. The round cork (*lili*) attached to the base of the dart momentarily blocked the air, creating an intense pressure that propelled the dart at great speed out of the pipe. The narrow long tube inside the blowpipe, besides creating an aerodynamic force by channeling the air that shot the dart, also caused the dart to fly straight. With the combination of these forces, a dart could hit a target with pinpoint accuracy and great force.[1]

When the dart penetrated the game, the poison on the tip of the dart dissolved in its bloodstream. The poison was carried to its heart and then circulated throughout the cardiovascular system, including the brain, thereby affecting the nervous system. About an hour later, depending on the strength of the poison and the size and type of game, the victim vomited and dropped to the ground, dead.

The main targets for blowpipe hunting were various types of monkeys usually found in highland areas, such as headwaters of a tributary's watershed system, or the top of ridges where animals tended to forage.[2] The best time to hunt for game was the animals' feeding time, that is, from daybreak until mid-morning. The animals rested from then on until the next feeding time, when they foraged from afternoon until sunset. When the animals were resting, they became very quiet and cautious of predators. In contrast, during feeding times, the animals were noisy, calling out and playing with each other.

The sequence of descriptions that follows is based on the order of Punan Vuhang's preferences. However, it must be noted that on an actual hunt during lean times, a hunter would hunt whatever animal he found, regardless of size, unless he was already heading towards a big animal, or felt certain that he would come across larger game farther along. When a hunter killed an animal too small to provide adequate meat, he continued to look out for other game until sunset, when it would be too late to track any more game.

[1] See Puri (2005:236-237) on how a hunter uses his blowpipe to shoot a game, and Zahorka's (2006) description on the effectiveness of the blowpipe poison.

[2] The best places to hunt these animals were the Sepayan and Bukor areas in the Kajang headwaters, and the Peluan at the Linau headwaters.

Hunting Medium-Sized Tree-Dwelling Animals[1]

The focus of hunting larger tree-dwelling animals (*laut lukjung kayu*) was mainly on varieties of monkeys: long-tailed or crab-eating macaques (*Macaca fascicularis*; *kuyat*); pig-tailed macaques (*Macaca nemestrina*; *barok*); grey leaf-monkeys (*Presbytis hosei*; *bongat*); red leaf-monkeys or maroon langurs (*Presbytis rubicunda; kumom*); white-fronted langurs (*Presbytis frontata*; *bui*); silver langurs (*Presbytis cristata*; *kucei*); banded langurs (*Presbytis melalophos*; *maheh*), and Bornean gibbons (*Hylobates muelleri*; *kelavet mongo*).[2]

With the exception of the two species of macaques that commonly lived in lowland forest, hunting these animals required a hunter to go out at daybreak (*gang lau*) into the highlands. Along the way, he would listen (*kelingo*) for animals calling out playfully in the morning, so he would know where to head.

In areas that had been inhabited by the Punan Vuhang for a considerable period, the animals became familiar (*usam*) with human hunters. To avoid attracting hunters, they did not make any sound to give away their position. So the hunter had to walk on top of a ridge to look for swaying of tree branches caused by animal movements. If he explored the lowlands or followed the valley of a tributary, he listened for the soft sound of swaying tree branches. He had to be intent and focused in his listening as cautious animals feeding on treetops did not make much noise. The only noise that they produced was the soft swaying of branches when they climbed from one branch to another to feed on leaf shoots or fruits. He had to listen keenly or else he would miss the sound.[3]

At times, the male grey leaf-monkeys (*bongat*) would fight (*patasang*) and this was noisy and could be heard from afar. Although the hunter could detect the sounds of the fight, he had to be extra careful (*pasarip*), as the grey leaf-monkeys were extremely alert and fled upon detecting the slightest movement on the ground. Frequently, the trailing (*nyemuwak*) of these monkeys required an entire day before the hunter had a chance to shoot them, and then he only had the opportunity to shoot two or three.

When the hunter heard sounds far away, he had to detect the sounds' source and the location of the game. If he were far from the animals, especially if he were on the opposite range of hills, he had to walk down the slope and up the opposite side to get nearer. While walking down and then up, however, he could not hear the source of the sounds. Consequently, before heading off, to be sure that he headed in the right direction, he pointed with his forefinger (*tujuk*) towards the direction of the sound or movement. Then he planted a stick (*batak*) in that direction, aiming at a landmark near the source of sound. This landmark, which was usually visible across the hill range, served as a reference point when he got across the slope. Upon reaching the opposite side of the range, he looked for the landmark.

---

[1] During my fieldwork, hunting with a blowpipe was no longer done. I relied entirely on my informants to describe this activity.

[2] The hunt for civet was more by chance as these predatory animals moved secretively and were therefore difficult to track. It was only through the keen eyesight of hunters focusing their vision on the tree canopy that they were able to spot these animals moving stealthily through the trees. See Appendix 4 for a list of civets.

[3] In most cases, he could not hear any sound until he reached the top of the watershed. He might even have to enter another mountain range to hunt for animals not familiar with human beings.

If he failed to find it, he returned to the *batak* pointing stick, checked on his direction and bearing, and went searching again. When he reached the landmark, sometimes an hour or two later, he then traced the source of the sounds, by which time, the game had moved to another area. He then listened intently again for their sounds. Applying the same method of pointing, planting a stick and tracking, he finally reached the game—an effort that might take a whole morning.

The hunter then walked carefully towards the animals. He had to position himself on an elevation that was lower than the base of the tree on which they were foraging. On a higher elevation, he could be easily spotted. As he approached the tree, he tiptoed very slowly (*tupunying koh*) under the cover of the dense canopy of short trees. Going nearer, he became increasingly careful as he entered into close viewing range of the monkeys that constantly looked around and down for approaching predators.[1]

He carefully approached the tree until he entered shooting range. In this position, the hunter was in a precarious position as he had to hide under the cover of the tree canopy, yet had to see through the canopy to look at the game. With his trained eyes, he focused his vision and peered through the small spaces (*minun*) between the leaves.

He selected a big animal that sat still, foraging. The hunter slowly aimed his blowpipe. It was difficult to maneuver the six and a half foot long blowpipe if the targeted game moved because the low branches of the tree under which he was hiding hindered free movement of the pipe. So, he would have to withdraw his pipe and move it below the branches to take aim again at the animal's new position. He inserted a dart into the hollow bottom of the blowpipe, inhaled deeply and blew into the top, creating an intense pressure inside the pipe that propelled the dart toward the target (see Figure 12, see page 109).

The small dart with its fine sharp point only produced a slight sting when it pierced the victim. As the animal did not see anything unusual, it did not sense any danger. However, it scratched the wound that was a source of irritation, thus breaking off the dart from the notched tip that remained inserted in the wound.[2] The poison smeared to the tip on the dart then slowly took its course.

Immediately after shooting the first victim, the hunter aimed at another target. He continued doing so until the animals became alerted to the stings affecting them. The rest of the group, unable to see any cause of danger to raise their alarm, merely climbed to the highest part of the tree. The hunter then stopped shooting, giving them no further cause to flee.

The hunter then waited for the poison to take effect which took an hour or so. While waiting for the victims to drop, he smoked a roll of tobacco. Except for the pig-tailed macaques (*Macaca nemestrina*; *barok*), no tree-dwelling animals could detect the smell of

[1] When a monkey threw down the skin of a fruit after consuming the flesh, its vision followed the falling skin. Any predator moving underneath the tree could be spotted.

[2] The tip of the dart had two or three slight notches. The purpose of these notches was to enable the tip to break off easily so that it remained imbedded inside the wound. If there were no notch, the game might pull out the whole dart, thus removing the poison before much had entered its blood.

tobacco smoke. The Punan Vuhang called the waiting period *pangok*.[1] Eventually the first animal died. Giving a loud cry, it vomited blood and then dropped to the ground. From this point onwards, the monkeys became extremely alert. However, they remained unaware of the cause of death. A long-tailed macaque (*Macaca fascicularis*; *kuyat*) might even come down from the tree to check the dead monkey. The hunter, however, still remained in his hiding place, not making the slightest movement to alarm the animals. Slowly all the poisoned animals dropped, one by one. The surviving monkeys then became cautious and slowly moved away, climbing slowly from one branch to another, and from one tree to another. They constantly looked back to check for any predators following them. After a distance, they stopped and kept still, all the time on the watch, looking back.

Meanwhile, instead of picking up the carcasses, the hunter followed the monkeys to shoot more. To avoid being seen, he moved parallel to the direction in which they moved. He listened to the swaying sound of the tree branches made by the monkeys' movements, and he kept track of the sound. He followed their movement, stopping when they stopped, and moving when they moved. He had a vantage point as they kept looking backwards.

When the animals finally stopped to rest, he waited for them to calm down from the sense of danger. He positioned himself and then shot. This time, the survivors, on seeing a repetition of the deaths of their group members, became very alarmed and fled at a fast pace. The hunter then collected the carcasses, broke the limbs and tied them into a bundle that resembled a backpack for easy transportation back to the camp. He then returned to where he had shot the earlier batch of monkeys to collect those carcasses, too.

As the hunting season progressed, the monkeys gradually became alert to the presence of the hunters. Their movement would then be too fast for trailing and it would be very difficult for a hunter to find the dying animals. He had to use a stick (*batak*) to gauge the direction of the sound in the same way as he had done earlier to search for the animals. Eventually he would hear the cry of a dying monkey. As the rest of the monkeys were extremely cautious, he had to wait for them to move away before he could continue walking to the spot to look for the carcass. Sometimes by the time he reached the site, he could not find it. He would then return to the *batak* and check his position and direction again. If he still could not find the body, he would return the next day to search for the carcass which would by then be decaying. He would sniff for the odor, or look for flies. Although the skin would have maggots and the dead animals would reek, the flesh would still be edible.

Hunting at the Salt Lick Springs, *Tasapan*—Hunting at a salt lick spring which was frequented by game was the easiest way to hunt with a blowpipe. It was possible to detect the presence of monkeys at a salt lick spring by the lack of fungus on the tree trunks, and the black color of the bark, due to their frequent climbing. Among the better salt lick springs were those found in the Sepayan and Petjawa areas. The monkeys came to drink during the full

[1] In the past, before the Punan Vuhang were introduced to matches or lighters, they had to use the flint and steel method to make fire. The striking produced one or two sounds from the flint hitting the steel. The monkeys were not alarmed as they did not know the source of the sound. As long as they did not see the face or eyes of the hunter, the game remained unaware of the human predator.

moon (*laga'ne nakui*) and hunters took the opportunity to hunt them if the community was camped nearby.

A few days before the full moon, the hunter constructed a shelter about thirty meters away from the spring. He covered it fully with leaves and twigs to resemble a bush, but left some holes out of which his blowpipe could protrude. Then, he waited for the full moon. At the peak of the full moon, soon after daybreak, a group of monkeys would come to drink. At first they would be extremely cautious (*terpakgau*) and look around for any signs of predators. For more details of hunting at a salt lick, see Puri (2005:240-243).

When they felt safe, a juvenile monkey would climb down to test and drink the water. It would return to the tree and a short while later another juvenile would climb down to drink. Slowly, a few of them climbed down. Eventually, all followed suit. Up to this stage, the hunter had been waiting without making even a slight movement. When all the monkeys were at the salt lick spring drinking the water, he shot as many as possible until they all climbed back up the trees. About half an hour to an hour later, all the monkeys killed by the blowpipe poison dropped to the ground.

Since monkeys from various areas came to the salt lick spring once a month, a hunter could attempt shooting them every month. For as long as the community was camped in places within reach of these salt lick springs, hunting there became a monthly activity until the arrival of the wild boar migration season when hunters focused instead on hunting wild boar.

Hunting Macaques (*Kuyat* and *Barok*) During Full Moon—The macaques the Punan Vuhang hunted included two types of monkeys that slept along the river banks at night. During moonlit nights they slept on fronds of the *Eugeissona* (*tajuk*) sago palm above small streams. In the evening they went to a place where *Eugeissona* grew. If a hunter came across these animals during an evening exploration, he waited for sunset. At dusk, the monkeys would play and climb up and down the trees. After that, groups of about four or five monkeys sat side-by-side on different sago fronds. Before nightfall, the hunter would shoot a row of monkeys on a frond and leave the rest for his kinsmen. He then would return to the camp before it was too dark to find his way back. Reaching the community, he informed his kinsmen of the find. Then they prepared their blowpipe poison and darts. To reach the hunting site before dawn the next morning, the hunters would leave the camp early and use glowing wood embers to light the way.

At dawn, the leader of the monkeys would snap its teeth to frighten away leopards, which were their natural predators. But as he did so, he betrayed his location. When the hunters reached there, by the light of the full moon, they shot all the monkeys. By daybreak, the monkeys would be so overcome by the poison that they would become too drowsy to move on as usual. Eventually all of them dropped.

A story (*suket*) explains why these two types of monkeys (*barok* and *kuyat*) sleep on sago fronds above streams during the full moon.

> The rat, *musing*, owed the monkeys, *barok*, a favor and promised to pay it back when two moons appeared together. Of course, that never happened. After a long time, the monkeys became desperate and could not think of a way to make the rat pay. Finally they decided to ask advice from the mousedeer. The mousedeer

advised them to make their house above a river during the appearance of the moon. Then they could ask the rat for the unpaid favor. The rat would ask since when had the moon appeared twice and the mousedeer told them that they could point to the image of the moon on the river. The monkeys felt happy with the idea and they immediately followed the mousedeer's advice. In due time, they summoned the rat to their house and demanded the unpaid favor. As predicted by the mousedeer, the rat demanded to know since when had the moon appeared twice. The monkeys pointed to the moon in the sky and the image on the river. Consequently, the rat could not avoid paying anymore and had to repay the favor due. Ever since, monkeys have always made their homes above rivers, especially on sago fronds because of better visibility of the moon and its image on the river.

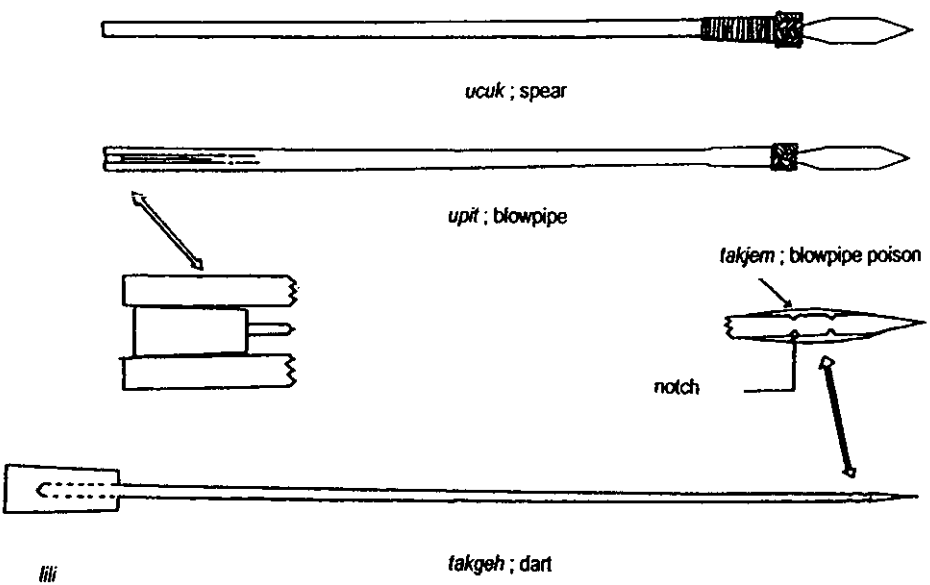
Problems in Hunting Medium-Sized Tree-Dwelling Animals

When the Punan Vuhang initially exploited a new area far away from a previously occupied area, they found it much easier to hunt tree-dwelling animals, as compared with later phases of hunting. At first, they would come across animals that were unfamiliar with humans. Consequently, hunters could easily stalk them. Gradually, the animals began to realize that many sudden deaths occurred whenever hunters were seen. As a result, they became wary of human beings as their predators. When this familiarity occurred, a condition the Punan Vuhang called *usam*, it became increasingly difficult to hunt these animals as they instantly fled upon seeing hunters.

Once the monkeys attained this level of awareness (*usam*), only very skilled hunters could stalk close to them. To avoid detection, the hunter had to tiptoe extremely slowly so that no sign of movement could be seen. He took only one step at a time, and was motionless for awhile before taking the next step. At all times, he ensured that the tree canopy covered him from the animals' view. When he came across an obstacle, he crouched underneath it, taking care not to brush against it, for that would cause the branches or leaves to move. As he proceeded, he glanced up to check on the reaction of the monkeys. If they showed signs of alarm, he would stop and wait for them to relax their guard. If they looked down, the hunter instantly froze and remained motionless until the monkeys looked away. To successfully reach the shooting range of the game, the hunter had to be able to harmonize with the background without revealing any sign of movement.[1] As the monkeys became more wary, they no longer moved on tree tops. Instead of leaping from one branch to another, thus giving away their position, they moved on the ground from one foraging place to another. Once they developed this habit, they were almost impossible to track. Following that, hunters had to rely on smaller-sized game that did not yet show such adaptation to human hunters.

[1] One time, Nyoie Sion, a hunter, was trailing these animals when they were already aware of humans (*usam*). In a crouching posture, he was lifting his leg to take another step when the game looked down. Immediately he kept still while holding up his leg. The monkey looked down for a long time until the hunter could no longer bear the strain of crouching on only one foot. The instant he put down his foot, the monkeys fled away.

Figure 12: Hunting Tools



Adapted from Chin (1985)

A further problem was the ability of the grey leaf-monkey (*Presbytis hosei*; *bongat*) and Bornean gibbon (*Hylobates muelleri*; *kelavet mongo*) to pull out the entire dart without breaking the tip so that the poison was not imbedded in their flesh. When they had experienced the death of their group members, they would no longer scratch the spots that irritated them but would gently pull out the darts instead. The Bornean gibbon pulled out the dart with its hind foot while the grey leaf-monkey used its front foot. With only a little trace of poison remaining in the wound, they were not affected by it. To overcome this problem, the hunter used a special dart with a finer and deeper notched tip. The very fine tip with the deep notches would cause it to become easily dislocated from the shaft of the dart. When the dart was pulled out, the tip, which would stick to the flesh, would remain imbedded. Because the tip was so fine and only a little poison could be smeared on it, the Punan Vuhang used a more potent poison (*takjem uhu* or *takjem tipluk*) to kill this game. Even a minute amount of poison would be sufficient (see page 153). The part of the carcass where the poisoned dart penetrated would be sliced off. The rest of the meat would then be safe to eat.

Hunting Birds

Bird hunting was an important activity that provided supplemental protein for the community when it became difficult to hunt larger animals. I will describe it in the order of the Punan Vuhang's preference, that is, first hunting big birds, then smaller ones.

The large hornbills were available throughout the year. However, the best time to hunt them was during the fruiting of fig trees, where the hornbills gathered to consume their favorite fruit. During this period, hunters would wait by a fruiting fig tree. When the birds gathered to eat the figs, they became easy targets. Nevertheless, according to Luhat Tehin, an expert on hunting hornbills, it was difficult to hunt the rhinoceros hornbills which had adapted to intercepting the darts targeted at them. To avoid the bird's interception, a hunter would shoot at a bird when it was in the midst of swallowing a fig.

When no fig tree bearing fruit was to be found, a hunter would go to the highlands where there were many birds. As the birds quickly flew from one place to another, it was impossible to track them down to the tree where they were momentarily perching. When the hunter would reach it, the bird would have flown away. To overcome this, a hunter attracted the bird to him so that he could shoot it from nearby. When the hunter heard a bird calling, he imitated the bird's call to draw the bird's attention. This hunting technique was called *monyo*. Different types of birds reacted differently to the call. The rhinoceros hornbill (*Buceros rhinoceros borneoensis*; *manok otu* or *kuan*) and helmeted hornbill (*Rhinoplax vigil*; *terjaku*), for example, would come to challenge the caller, thinking that the imitated call was made by a rival male. As it flew nearer and nearer, the hunter repetitiously imitated the call, thus drawing the bird very close to him. Since he was hidden under a low tree, the bird could not see him. When the bird flew to a lower branch to meet his challenger, the hunter shot it with his blowpipe.[1]

[1] Usually the male hornbill has a female partner that accompanies him. However, instead of flying low, it keeps at a distance resting on a very high tree. When the male is killed by the poison, the female will look for her partner. She continues looking for her mate, constantly crying out and flying near to the spot where she lost him. This searching for the partner is called *pakgoh* and the bird continues to do so for a very long time.

The helmeted hornbill (*terjaku*) was difficult to hunt. A very strong poison was required to kill it, and even so, it took a very long time for the poison to take effect. When the birds that were shot flew away, the hunter listened for the loud sound of flapping of the birds' huge wings in order to trace the direction of their flight. When the sound stopped, he used the stick system (*batak*) to detect the direction and waited for the birds' calling. Gradually he got nearer to them. If they flew away, he followed them. The trailing took several hours. If the birds were shot in the early morning, the poison would only take effect in the late afternoon.[1] As the bird dropped, the hunter searched for its carcass. If the flock of birds flew away again, he trailed them until all the affected birds had dropped to the ground. Each tree from which a bird dropped was located by the hunter on his mental map so that he could return to retrieve the bodies.

In the highlands where the Punan Vuhang seldom hunted, hunters could get many types of birds using bird calls (*monyo*). When he heard a bird's call, he hid and then imitated it. Unlike the hornbill which reacted aggressively towards the caller, these birds would come near to make friends with the "calling bird," thus providing easy targets for the hunter.

Hunting birds on a mountain required the observation of taboos. When a hunter continually failed to get any response from the imitated call, he had to go to another highland to try his luck. The Punan Vuhang believed that if the hunter remained at the same location, the birds would not respond at all. Also, a hunter took care not to point his finger towards the birds, as was done with other types of game, although he could point with his blowpipe. In the morning, the mentioning of any of these birds' names would result in a torrential rainfall, although doing this in the afternoon was said to produce no such effect.

Hunting Small Tree-Dwelling Game

The Punan Vuhang turned to hunting small animals when they could no longer successfully hunt larger game. Earlier, they avoided hunting these little animals as it was a waste of blowpipe poison when the amount of meat was so little. The main small-sized animals that they hunted were the various types of treeshrews (*Tupaia spp.*; *ukik*) and squirrels (*Callosciusrus spp.*; *tali*), which were found in abundance throughout the forest. Even within the Punan Vuhang camps, the hunters could obtain these animals, which they had ignored previously.[2] As the animals were found near the Punan Vuhang campsite, a hunter did not have to venture far into the forest to search for them. Even young children could hunt these animals by themselves. They were easy to hunt as after being shot, they remained at the same tree until they dropped.

When the Punan Vuhang had to hunt these small animals because of the absence of larger animals, it was time for the community to move on to another site. Because of the

[1] Birds that were shot in the afternoon could only be retrieved the next morning. The hunter trailed the birds until they perched on a high tree to rest for the night. Early the next morning, the hunter would return to the tree to trace the birds' flight again.

[2] Squirrels and shrews did not require blowpipe poison to kill them. Due to their small size, darts without poison sufficed. However, the giant squirrel (*Ratufa affinis*; *mamek*) required poison to be killed, and because of its large size, could withstand the poison for awhile, and moved away to die at a distance from the spot where the hunter had shot it.

short duration of the hunting of these small animals, and due to their abundance, only a small percentage of the total population was ever killed. Consequently, the treeshrews and squirrels did not develop a strategy for avoiding hunters, and thus remained easy prey.

Hunting Big Game with a Metal Dart, *Pakgoh*

Occasionally while looking for other game, hunters would come across big animals such as wild boar, deer and barking deer, and in the distant past, even rhinoceros and wild buffalo. These big animals required special blowpipe darts (*pakgoh*) to kill them. The special darts (*pakgoh*) were larger and had a sharp metal tip to pierce the tough hide of larger animals and to deliver a larger amount of poison deep into the flesh. Due to the big size of a wild boar or a deer, the poison required about two hours to kill them. The tracking of a big game animal that had been shot required great patience. If by nightfall the game had not died, the hunter returned to the camp. Early the next morning, the hunter would bring his dogs to track down the game, which should have died by then.

Hunting with a blowpipe also required the observance of a taboo (*lalik upit*). When a hunter left his shelter, he ensured that no one saw him on his way to the forest. Otherwise, the Punan Vuhang believed that the game would see him before he could see them. If seen, he returned to his shelter and waited for awhile. He then would go out again, making sure no one saw him, this time.[1]

Noose Trap, *Ovet*

The Punan Vuhang used a noose trap (*ovet*) to hunt ground-dwelling animals. Traps were set when wild boar were out of season, and towards the later stages of blowpipe hunting when animals had become wary of hunters. Traps caught ground-dwelling animals that were difficult to track in the forest. Although hunters did not have to spend time searching for game, setting traps was a laborious process that involved several days of work, and new ones had to be made when the community moved to a new location. Animals that were trapped included ground-dwelling birds, civets, porcupines, and small monkeys. Large monkeys could not be trapped as they would free themselves by biting the noose string.

The Punan Vuhang used three types of traps, all with a similar basic mechanism for ensnaring game. Following the diagrams (Figures 13 and 14): To set the trap, the tension pole (*ivun*) was pulled down so that the top end of the small stick (*palang*) was hooked to the top middle section of the inverted U-shaped green stick (*botik*). The bottom end was then used to hold a horizontal stick (*bat*) connecting both the legs of the inverted U-shaped frame (*botik*). A trap string (*pingitan*) tied to the *palang* was set under the inverted U-shaped frame and was laid on the ground in the shape of a noose (*matan*). Numerous smaller sticks (*legereh*) were placed across the *bat*. Dried leaves and twigs, looking like forest floor litter, were placed on these sticks (*legereh*). When the weight of a small animal, usually its foot, fell on these sticks (*legereh*), they would fall. This triggered a chain reaction whereby the *bat*

[1] I think that this need for avoidance of being seen was one of the main reasons why the Punan Vuhang constructed walls around their shelters. When they left their shelters early in the morning, the walls shielded them from view.

dropped, and the tension pole (*ivun*) snapped, pulling the trap string (*pingitan*) and then the noose would ensnare the animal's foot.

Behind the green stick (*botik*), two sticks (*kajang*) were planted in the ground to guide the animal to step into the device. To camouflage the noose trap, a hunter put some twigs in the back and front of it. The twigs were joined to a line of obstacles (*titing*). When an animal met the line of obstacles, it would try to find a way through. When it came across the small opening, it would go through the space, which in effect was the trap, and then would became snared. The Punan Vuhang used three types of snare traps to trap ground-dwelling animals: *ovet bakar* or o*vet mongo, ovet ilet* and *tagalong*.

Table 2: Ground-Dwelling Birds that can be Trapped

Scientific Name	Vernacular Name	Punan Vuhang Name
Argusianus argus grayi	great argus pheasant	*oui latah*
Polyplectron malacense schleiermacheri	Malaysian peacock-pheasant	*oui taun*
Lophura bulweri	Bulwer's pheasant	*nyokuei*
Haematortyx sanguiniceps	crimson-headed partridge	*kopak*
Chalcophaps indica indica	emerald dove	*punukon*
Lophura ignita nobilis	crested fireback	*manuk latah*
Rhizothera longirostris longirostris	long-billed partridge	*kokah*

Table 3: Civets and Porcupines that can be Trapped

Scientific Name	Vernacular Name	Punan Vuhang
Viverra tanalunga	Malay civet	*besangit*
Cynogale bennettii	otter civet	*pukget*
Artictis binturong	*binturong* or bear cat	*ketan*
Arctogalidia trivirgata	small-toothed palm civet	*munim*
Paguma larvata	masked palm civet	*bucang*
Paradoxurus hermaphroditus	common palm civet	*bucang*
Hemigalus hosei	Hose's civet	*leheh*
Hemigalus derbyanus	banded palm civet	*palong*
Prionodon linsang	banded *linsang*	*sengihat*
Herpestes semitorquatus	collared mongoose	*tupob lanum*
Herpestes brachyurus	short-tailed mongoose	*tupob mongo*
Herpestes hosei	Hose's mongoose	*tupob mongo*
Trichys fasiculata	long-tailed porcupine	*teyan*
Thecurus crassispinis	thick-spined porcupine	*totung kelien*
Hystrix brachyura	common porcupine	*totung mucit*

Figure 13: Noose Trap (front view)

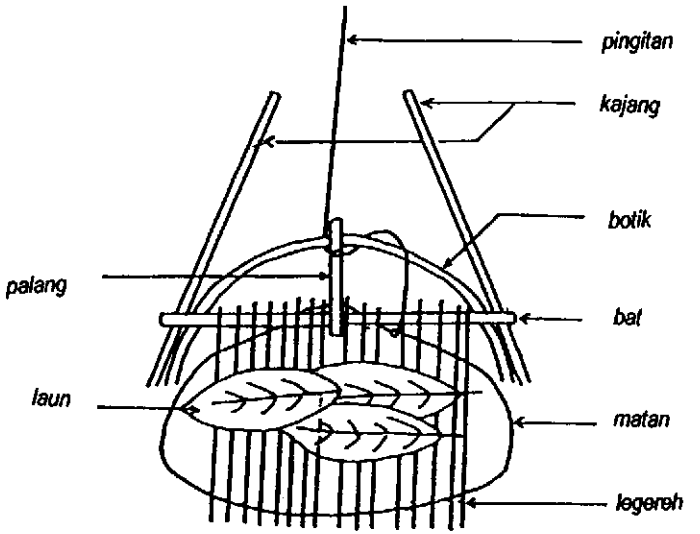
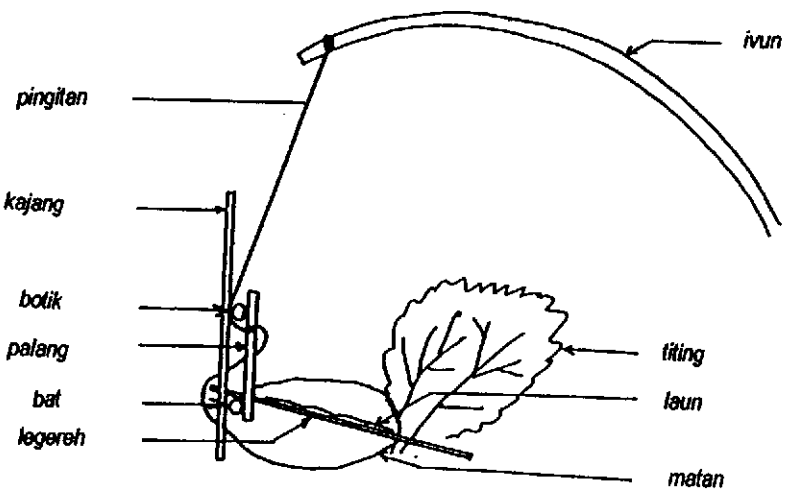


Figure 14: Noose Trap (side view)



Ovet Bakar* or *Ovet Mongo

When the game stepped on the noose, it triggered the device which released the string. The tensed pole snapped back, yanking the string and the animal up in the air. This tightened the knot that caught the animal's foot. After being ensnared, the game was suspended on the long pole. The advantage of this method was that if the trapped animal was big, it would not be held down by the device. Otherwise, the animal would break the trap.

Ovet Ilet

The *ovet ilet* used a similar mechanism. However, the noose string (*tali pingitan*) attached to the *matan* was placed beneath the green stick (*botik*), and not over it as with the *ovet mongo*. As mentioned above, when the game stepped on the trap, it was triggered. This released the string, and the tension pole sprung up to pull the noose. However, the noose was held down by the green stick (*botik*), and the arched pole retained the tension that held down the game. The pressure stopped the blood flow and the animal soon died. The advantage of this method was that the game was killed immediately, thus providing it no chance to escape. However, if the ensnared animal was big, it could not be killed. Besides, the quarry struggled to break the trap device, and could sometimes free itself.

Tagalong

The *tagalong* trap involved the use of bait to attract carnivores and monitor lizards. The snare system was similar to the spring system of the *ovet ilet* except it was larger and stronger. It was set by a hollow tree base, which resembled the resting ground of various kinds of animals. A bait of meat or offal was laid inside the hole. Pieces of wood were placed around the trap to prevent the quarry from getting the bait without going through the opening of the trap. Then twigs (*ngiting*) were set around the trap to resemble a nest. The bait produced a strong odor that attracted scavengers such as civets, leopards, lizards, porcupines and even wild boar. When an animal smelled the odor, it would be drawn to the bait. When it put its head into the trap to reach the bait, the device would be set off, causing the rattan noose to ensnare and jerk the animal's neck. The tension pole produced such a great pressure on the rattan that it snapped and broke the quarry's neck.

Trapping Strategies

In addition to these methods, the Punan Vuhang employed several other strategies to trap game. Similar to monkeys, ground-dwelling animals became wary when they frequently encountered traps. Initially, the animals were not familiar with traps and were easily trapped. Eventually, whenever they came across traps, they would avoid them. The following is a description of the strategies that the Punan Vuhang used to overcome this.

At the beginning of the trapping season, a hunter set noose traps that were linked to several lines of obstacles (*titing*) which cut across animal paths. These passageways were usually located on the top of a series of low passes (*berkatih*) on ridges or ranges that separated two river systems. These low passes were natural crossing points for ground-dwelling animals foraging from one place to another. As an animal crossed the low pass, it would come across the line of obstacles. It then would search for a way through the

obstacles to continue its journey. When it arrived at an opening (which was the noose trap), the game went through it and was trapped. Over several weeks, as game became trapped whenever they met with lines of obstacles along their paths, others would become cautious. When an animal encountered a line of obstacles, it would move along the obstacles, avoiding the openings until it came to the end of the line. Then it moved on, past all the other obstacles. When this occurred, as indicated by increasing failure to obtain game, the hunters adopted a second strategy.

***Ovet Titing* —** The second strategy used the same principle of traps set within a line, employing a single long line that contained dozens upon dozens of traps. Besides setting the line parallel to a stream, a hunter also set this line along a long stretch of a mountain pass. It was a time-consuming task that required much manpower, but the demand for scarce protein food motivated them. When an animal confronted the openings, which were the traps, it would just move alongside the line of obstacles. After awhile, when it did not find any gap large enough to go through, it would become distressed. Out of desperation to go to the other side of the obstacles, it would eventually go through an opening, thus becoming trapped. Over time, the animals would become aware of this deception. Instead of attempting to continue the journey by crossing the line, they simply turned back and went another way. Then the Punan Vuhang used the *ovet puklik-ulik* method to divert their attention.

Ovet Puklik-ulik — Instead of making a long line of obstacles and traps, hunters set many lines of disconnected obstacles and noose traps at different locations. When an animal met with a line of obstacles, it moved on until it came to the end of the short line. Then it continued on its journey until it met another line. Similarly, it moved on until it came to a wide clearing at the end of the line. After passing a few encounters of the short lines of obstacles, the animal eventually became off-guard. Then it was oblivious to the openings and went through one and was snared by a noose trap. After a period of several weeks, however, the animals became wary of these multiple lines of obstacles and were not caught again.

Once the animals recognized the dangers posed by the *ovet puklik-ulik*, the Punan Vuhang had to go to still more distant places where animals were unfamiliar with them. As mentioned in the mobility section, they might go into a distant river system where hunters had not ventured for a long time.

Fruit Trap, *Ovet Bua'*— The Punan Vuhang set fruit traps around keystone species that bore fruit throughout the year. These included the fig (*lunuk*), *Parkia speciosa* (*patar*) and *terkengan* fruit trees. As these fruit trees bore fruit outside the normal fruit season, the ground-dwelling animals foraged around these trees for fallen fruits whenever other types of fruit were not available. To trap these animals, hunters set traps outside the dropping range (*gahah*) of the overripe fruits. As the traps were placed a distance away from the tree, the animals would go at a fast pace toward the tree and thus fall into the traps. On the other hand, if the traps were set within the fruit falling range, the animals would not move fast enough to be ensnared. Furthermore, if the animals saw one victim being trapped, they would become extremely wary of anything that resembled the object that killed the animal. Consequently, hunters set noose traps at a distance from the tree and put them far apart

from one another. Therefore, animals approaching the fruit tree had less chance of encountering a trapped animal.

When the fruit bearing period for these fruit trees was over, the Punan Vuhang shaved the tree bark of the *Parkia speciosa* (*patar*) fruit tree. The exposed bark emitted a strong smell that attracted animals. Game continued to be attracted to the tree until its leaves dropped.

Taboos in Trapping, *Lalik Ovet*

Trapping also involved a taboo (*lalik ovet*) which was almost the opposite of the blowpipe taboo. Instead of avoiding being seen *on the way out* as in blowpipe hunting, trappers *returning* to the camp had to avoid being seen. They believed that when a trapper was seen by humans, his traps would also be seen by the animals before they were lured into them. For that reason, trappers would come back very late, after dusk, when other community members had already returned to their shelters. Among other factors, I believe that it was for this reason that children were forbidden to loiter around at sunset. Also, the community believed that dusk was the period when dwarf spirits (*otu dokgek*) were actively moving around in search for food. With the children staying back in the shelters, trappers could return more easily without being seen. This waiting period at the edge of the camp until nightfall was called *jongan*.

When the trapper returned to his shelter, he did not pull anything out, especially a knife from its scabbard, or kindling wood from the firewood frame. It was believed that pulling things out from their places resulted in *tapui*, that is, the ability of the trapped animal to disentangle itself from the noose.

When setting traps in the forest, if a person happened to come along and saw the trapper at work, the trapper had to set a trap for the "visitor." This setting of the trap was like giving him a share of the trapped game. If the trapper did not set a trap for him, his trap would trap nothing, a situation which the Punan Vuhang called *keluwar*. If the trapper had no respect (*nyelupo*) for the visitor, the animals would have no respect for the trapper.

Other people were prohibited from intruding into the trapping grounds. The Punan Vuhang believed that such an intrusion would cause disruption and the game would not go to that place anymore. To avoid that, signs pointing to the trapping grounds were placed on access routes that passed by the area. As a result, hunters did not go there to search for game.

Fishing

The Punan Vuhang mainly used four fishing methods: fish traps, fish harpoons, various types of line and pull techniques, and fish poisoning. Trapping was the most important as it produced a higher yield than the other methods. The most suitable time to go fishing was during the drought season when fish could be easily caught. Also, it was during this period that fish became an important food because hunters frequently failed to get anything in hunting. This finding is in contrast to Sellato (1994:129), who in reference to Seitz (1981:304), states that because sago and wild game were so abundant, fishing was unnecessary. Also Punan generally lived away from major rivers and so there were few good opportunities to catch fish.

During the dry season, shallow river conditions produced calm flowing water that allowed the Punan Vuhang to fish successfully. In contrast, a high river level prevented the effective use of fish traps. The Punan Vuhang employed three types of fish traps: the *ovow civu*; the *ovow tutu*, and the *ovow malam*. A fourth trap, a fish spawning trap (*ovow luyuk*), was set during the beginning of the crescent moon when fish swam into small tributaries to spawn.

Ovow Civu

This fish trap was set at high water during the drought season (*bohok*). After a few weeks of continual dry weather, the river level dropped (*po'ngehok*) very low. On stretches of rock bars (*tatang*) the river became very shallow (*lagek*), with most parts having water up to only a few inches deep. The shallow slow-flowing water allowed very little food to be drained into the bays, and after awhile, the fish exhausted the food inside the bay.

Heavy rainfall would cause the water level to rise (*lanum civu*), freeing the fish from the bays and letting them swim far into the tributaries to forage for various types of food, including snails, insects, crabs, caterpillars, worms and small fish that inhabited the streams inside the tributaries. After a day of dry weather, the water level would begin to drop quickly. The big fish then had to swim back to the main river to avoid being grounded (*kalen*) inside the shallow streams. It was these returning fish that the Punan Vuhang trapped with this type of fish trap (*ovow civu*). Hence, the Punan Vuhang referred to this trap by the word *civu* – meaning 'rising water.'

During fieldwork, I managed to observe Luhat Tehin, the only person who still practiced this method. When the rising water had stabilized, which happened a day after the water first rose, Luhat went into a tributary to construct the trap. He selected a stretch of river with a shallow rock bar as the trapping point. Using small tree branches, he blocked the entire stream (*ngaput lanum*), leaving only a small opening at the edge of the river bank (*bavih lanum*) to set the trap. This river blockade (*ngiting*) prevented the fish from swimming past the trap. The trap was a cylinder-shaped wooden container five to seven feet long and about two or three feet in diameter. He constructed the trap from small pieces of long straight saplings that he bound together with rattan strips, then covered the end of the trap with similar materials. He fastened the trap into the opening of the river blockage with its mouth facing upstream, then used a rattan vine to tie the trap to a tree so that more rising water would not wash it away.[1]

Luhat placed the trap at the edge of the river bank. Otherwise when a fish encountered an open space at the mouth of the trap, it would become cautious and test the space. Instead of swimming head on through the space, it would swim backwards. As it swam against the water current, it tested the stone formation on the river bed. As it slowly entered the trap, it would become aware of the disturbance and then swim out of the trap. It would not swim through the trap unless the obstacle was removed. On the other hand, when

[1]On top of the trap he arranged three stones in a distinctive pattern. A disturbance to the trap, especially a person stealing the fish, would disrupt the stone arrangement. To take the fish, the long trap had to be turned upside down to pour out the fish. By doing this, the stones would be dislocated. The thief could not replicate the stone arrangement and the trapper would therefore come to know of the theft.

the trap was set by the river bank, the natural edge of the river bank on one side of the trap's opening reduced the fish's caution and it would swim head-on into the mouth of the trap.

According to Luhat Tehin and other informants, the Punan Vuhang could trap many large *Hampala macrolepdidota* (*lungan*), *Tor Tambroides* (*katu*) and mature *Tor douronensis* (*tanguh*) fish, besides many more smaller fish such as juvenile *Tor douronensis* (*gen bitu*). As the water level continued to recede, more fish would become trapped in the following days. Fish trapped on the second and third days were smaller because bigger fish that had to return earlier to the river were trapped on the first day.

Ovow Tutu

Based on my informant's account, this fish trap operated on exactly the same principle as the *ovow civu*, but was set on the main river on a much bigger scale. It was placed upriver from a big bay that sheltered many fish, in comparison to the *ovow civu* that was set inside small tributaries. When the water level had subsided for two or three days, the river would become shallow. When it was about two feet deep on the rock bar, the fish had to swim back to the big bay. The blockade across the river had to be substantial, otherwise the strong current would sweep it away. The blockage could be a fallen tree laid across the river or a rattan rope tied with treebark stretched from one bank to the other. Swimming along the river, the fish inevitably met the blockade and were then lured into the trap. Up to several dozen of the big *Hampala macrolepdidota* (*lungan*), *Tor Tambroides* (*katu*) and mature *Tor douronensis* (*tanguh*) fish could be trapped, besides the *Puntius bramoides* and *Puntius bulu* (*leverap*) and various types of small fish.

Night Fish Trap, O*vow Malam*

During a period of long drought, big fish frequently entered major tributaries during the night to search for food in the shallow rivers. The cover of darkness protected them from daytime predators. Before daybreak, they swam back to the main river. To trap these fish, the people blocked the river after the fish had swum upstream. They made a big fire to provide light to enable them to construct the blockade. Then they extinguished the fire to bring darkness again. Before daybreak, up to a hundred fish would swim back to the main river. Meeting the block, the fish became desperate and struggled to break through it. While the fish gathered there to break through, the people clubbed them to death. For illumination, the Punan Vuhang lit two big fires on both sides of the bank so that they could easily club the fish. On a single night, the Punan Vuhang could catch up to a hundred big *Hampala macrolepdidota* (*lungan*), *Tor Tambroides* (*katu*) and mature *Tor douronensis* (*tanguh*). Because of the abundance of big fish, the night fish trap was a communal activity that provided every member a big share of fish. With the participation of the whole community and the setting of the night fish trap usually far upstream, this kind of fishing involved setting up overnight camps near the trapping site.

Fish Spawning Trap, *Ovow Luyuk*

The Punan Vuhang used this type of fish trap to catch the *Paracrossochilus acerus* (*ngun* ? - identification uncertain), *Puntius bramoides* and *Puntius bulu* (*leverap* ?) that swam into small streams far upstream of tributaries to spawn. This trap used a method similar to

that mentioned above. However, it was small in scale, as the size of the targeted fish was only two to three fingers wide (less than two inches wide). The spawning fish usually entered the tributaries on the second night of a new moon. After spawning they returned to the deeper river if the water level in the stream was too low. If trapped in the shallow stream, the fish would be exposed to predators. Therefore, although the spawning was monthly, the Punan Vuhang only set traps during the drought season to trap the returning fish. The setting of these traps in a tributary could not be done more than three times a year or the fish would sense that the tributary was a dangerous place.

Fish Harpoon, S*elangap*

Like the trapping methods, the Punan Vuhang only used this method during the drought seasons. Harpooning or spearing was done at the bottom (downstream) of a rock bar (*lejeb tatang*).[1] The shallow river at the rock bar kept the big fish inside the downstream bay. Occasionally fruits would flow through the rock bar into the bay below. Big fish such as *katu* and *tanguh* and various types of small fish would wait for the fruits to flow down. As small fish also congregated at this spot, the carnivore *Hampala macrolepdidota* (*lungan*) fish preyed on the small fish, and itself became the target of the fisherman.

To harpoon these big fish, the fisherman waited on a tree branch overhanging the bay. In the primary forest, there were many *Dipterocarpus oblongifolius* (*kuhuwei*) trees growing at the water's edge. These trees had very long and strong branches that arched over the surface of the river. The branches provided stable platforms to spear the fish that swam past the branches. Motionless, the fisherman waited for a big fish to come by. The fish would stop at the edge of the bay and watch for fruit.

The fisherman waited until the fish became stationary and had its head tilted downwards (*nguin koh; ternongob*). When the fish's head was aimed forward or tilted up, it was able to see upwards and would avoid any harpoon hurled at it. Therefore the hunter had to wait patiently for the fish to look down. The moment he felt certain that the fish was looking down, he hurled his harpoon. The instant the harpoon hit the fish, he grasped the end of the harpoon's shaft before it fell out of reach.[2] After spearing the fish, the hunter would go to another bay to repeat the hunting process. He could no longer fish at the same site, as all the fish there had become alerted and would swim to the bottom of the riverbed.

Line and Pull, *Pohi Pamit*

Pohi pamit involved putting a thin strip made from rattan or vine into the river to attract fish. The line itself was the bait, as the hungry fish would be enticed into eating the line. When a fish bit the line and tried to pull it away, the pulling produced a tension. Feeling

[1]In the distant past, the Punan Vuhang used the *selangap bengo* fish spear that they carved from the *bengo* sago trunk shell. This spear was rather fragile. If a hunter was careless and missed a fish, the spear was likely to hit the hard bottom and break. However, being skilled hunters, this rarely occurred. Then, early in the last century, Iban forest exploiters introduced the iron fish spear which the Punan Vuhang called *selangap titei* (iron harpoon).

[2]The shaft was made from the long, light but strong frond of the *Salacca* sp. (*lemukjan*).

this tug, the Punan Vuhang would instantly yank up the line. As the fish was still biting the line, its biting grip was so strong that it was pulled out with the line.

The line and pull was a simple method that anyone could use. However, only men who possessed sufficient strength and speed could pull out a big fish before it released its bite from the line. If a person were slow in drawing the line, the fish would become alert and release its bite even before it was pulled out of the water. Consequently, most individuals could only catch fish up to one foot long. Although this was a simple method, its success rate depended on the fish's reaction toward the line. As a result, men preferred the more challenging method of fish spearing which depended more on skill than on luck.

Line and Hook, *Mohi*

The Punan Vuhang used this method with the bone of a certain animal (*tekurang*) as hook, and an earthworm as bait (*itpot*) to catch small fish of the *Elxis sabanus* species (*itu*). During the day, the soil on the stream bottom was dug up to make the water murky (*matuk*). The fish relied on their sense of smell in this murky water and took the bait. If the water were clear, they would not eat the bait. At nighttime, the fish similarly used their sense of smell to search for food and as it was dark, there was no need to muddy the water.

***Seketok* Line and Bait**

An informant believed that only the Punan Vuhang used this *seketok* method to catch the toe-sized *Glaniopsis gossei* and *Glaniopsis hanitschi* (*kuvulung*), which were found in streams above waterfalls. It involved the use of a small vine (*pingitan*) inserted through several earthworms. The vine was tied to a rod that was put into the river. The person twitched the rod slightly which moved the vine to attract the fish. When the fish bit the earthworm, it sunk its teeth into the vine. When the person yanked up the rod, the fish remained biting the worm and the vine.

***Sarap* Fish Trap**

This fish trap resembled a shallow basket a foot in diameter that was woven from fine rattan strips (*sumin*). It was used to catch the small *Gastromyzon* spp. *(lakot*), *Protomyzon* (*li*) and *letapak* that hid under big stones on shallow rock bars. The method required placing the trap underneath the stone, with the fish caught inside the trap. It was delicate work which entailed lifting the stone slightly while pushing the *sarap* lightly underneath the stone and the fish. Then the stone was removed and a few small fish were caught in the basket.

This fishing on shallow rock bars was done in the hot sun during drought seasons. As it was hot, it was hard work and required patience to trap the fish hidden underneath the stones.

Catching the Little *Itu* Fish (*Mitu*)

During the period of scarcity when the Punan Vuhang camped on the upper parts of tributary rivers, they would try to catch small fish in the shallow bays of small streams. The reaction of the small fish, *Elxis sabanus* (*itu*), hiding under big stones when the bay was disturbed, was what caused it to be caught. A man used a stick to poke into holes (*mek*

lekavoh) underneath tree roots and boulders to force out the fish. The fish would then swim underneath stones. Then he took a boulder and threw it with great force on the stones. The impact killed the fish hiding underneath the stone. Sometimes, he could obtain two or three fish underneath a stone.

Poisoning Fish, *Tubo*

The Punan Vuhang used several types of *tubo* poison to intoxicate fish during a long period of drought when the streams were shallow. These included *Croton tiglium* L. (*tubo kaling*), *Derris elliptica* Benth. (*tubo okar*) and *Derris* sp. (*tubo pari*). They cut away the bark from of these trees, or extracted the roots for pounding on a rock with a wooden stick. This mashing turned the woody material into pulp. Following that, they soaked and squeezed the pulp in a slowly flowing stream. This dissolved the latex and caused the water to become toxic, thus poisoning the fish inside the stream. As the fish were numbed, they swam about slowly and without caution. Consequently, they could be easily slashed with knives or caught in baskets.

The amount of poison available determined the size of the stream chosen for poisoning. If it were abundant, it could poison fish in a relatively big stream. In that case, every community member would participate in catching many fish, both big and small. If only a little poison were available, only members of one household would participate in poisoning a small stream to catch just a few fish.

Supplementary Activities

The Punan Vuhang also engaged in various other activities to supplement their livelihood. Some were done only when needed, while others were seasonal. Food collecting activities included community honey-collecting during the peak of the flowering season. Hunters searched over the forest for various kinds of food during the lean period and also gathered medicinal plants when a household member was sick. Other activities included collecting materials to make and repair tools, gathering firewood, and collecting rattan for weaving mats and hunting leaf monkeys for bezoar stones for barter trading.

Honey Collecting (*Mek Singot*)

Honey collecting was a complicated process that involved many work stages. I will give simplified accounts of the ways honey was extracted from the nest of the honeybee (*Apis dorsata*; *singot*), based on details provided by Naro Pua and Uji Lating, and my own observation of the activities.[1] At the beginning of the major fruit season when forest vegetation was in full bloom, honeybees arrived to gather the flower nectar. They made their beehives on the branches of huge trees that protruded above the tree canopy. The trees were generally of the *Shorea argentifolia* Sym. (*manator*), *Dyera costulata* (*litok*), *belati* and

[1] There are three types of tropical honeybee living in Southeast Asia (Seeley et al. 1982 cited in Seeley 1993:166). The Punan Vuhang mainly exploited the *Apis dosarta* because of its higher yield. Individuals who discovered the nest of *Apis cerana* (*lowar*) in tree cavities, and the nest of *Apis florea* built low on a slender branch of a small tree, would harvest the honey by themselves.

lalo tree species.[1] The Punan Vuhang called the pioneering beehives that contained only the adult bees *jangin singot*. Then new eggs were laid and little bees were hatched. As more larvae were hatched, the little bees turned into mature bees which formed swarm after swarm that descended on flowers to gather nectar and pollen. They turned the nectar into honey and filled the empty honeycombs with it. Not long after, the flowers stopped producing nectar and the bees began to consume their own honey. As the season progressed into the fruit season, the bees had consumed much of the honey. Then they began to process juice from ripened fruits into honey. When the fruit season was over, they consumed the honey again before flying back to their place of origin.

The Punan Vuhang gathered honey toward the end of the flowering season, that is, a few weeks before the flowers turned into fruit buds.[2] Honey collecting required a lot of hard work that involved all the manpower in the community. As a result, they selected certain trees that contained many big beehives which were known to have a lot of honey. It would have been too laborious to attempt to harvest all honey trees found near a camp.

The work involved some men climbing up the honey trees and collecting the honey in pitch darkness. In the dark, while the bees were sleeping, the men could carry out their work without hindrance from the bees. Basically, the men constructed a ladder to reach the crown of the massive tree and made platforms to reach the beehives attached far out at the bottom of the branches. Then the man who was the best climber used a burning *bosok* "broom" to brush the bees from the beehive. After that, they burned all the bees that came down to the ground. With the absence of the bees, the climber harvested the beehive and honeycomb.

On the appointed day, all able-bodied members and their households camped near the honey tree to participate. While everybody constructed their own shelter, a man prepared kindling and torches (*bosok*). The pieces of kindling were split wood used to produce large flames to distract attacking bees during the beehive burning. Since the man only had a day to turn the kindling into dry firewood, he used the wood of the *orak* and *sarit* species which dried very fast. To make the torch for sweeping the bees, he used a young trunk of the *lubuyun ciap* or *lubuyun singot* tree. He split the end of the one and a half inch diameter trunk into small sticks about one and a half feet long, and with the base of the sticks still remaining attached to the stem, the torch (*bosok*) resembled a broom. The pole was hard and could burn for a few minutes – the duration needed to drive away bees clinging to the beehive. After he completed preparing the kindling and a few torches, he placed the firewood on a frame and made a big fire beneath it to dry the wood completely. He used dead dry wood to start the fire, and then the trunks of the *lubuyun ciap* and *lubuyun singot* (which burn well even when green) to dry the firewood. The drying of this firewood required a few hours and the burning had to be done some distance away from the honey tree so as not to disturb the bees.

---

[1] Christensen (2002:93) provides a list of host trees for wild honeybees found among the Iban and Kelabit. They are *Alstonia scholaris; Hopea pentanervia; Shorea platyclados; Koompassia excelsa,* and *Ficus sp.*

[2] The Punan Vuhang were not so keen on collecting the honey produced from fruits at the end of the fruit ripening season. At that time they were more interested in hunting the migrating wild boar.

By afternoon, as soon as a man completed his household's shelter, he went into the forest to gather rattan vines. Then he collected straight trunks from small trees (*kayu laroh*) of one and a half to two inches in diameter. By evening, while most men continued rattan collecting, some men began constructing a ladder (*ogak*) up the honey tree. They bound the trunks together with rattan strips to make the ladder. While some men worked on the ladder, others built simple lean-to huts close to the honey tree so that the people could rest while waiting for the honey collecting to begin. By dusk, the honeybees returned to their beehives. The men paused in their work so as not to alarm the bees. After awhile they resumed constructing the ladder which by then would reach halfway up the honey tree. Meanwhile, the rest of the community waited at the camp, had their dinner and only went to the honey collecting site after nightfall. It would take a few more hours before the first beehive was harvested.

Gradually, the ladder construction approached the crown of the tree where the branches spread out. All this was done in total darkness without any light as light would have alarmed the bees.[1] The leading climber selected the biggest beehive, then climbed about ten feet out onto the middle part of the branch. An assistant passed him a strip of rattan with a hook (*gait*). The *gait* was a long rod made of the frond of the *Salacca* sp. (*lemukjan*) with a few rattan rings attached to it. The assistant put a rattan strip through the rings and extended the rod to the climber. He then pulled the rattan strip from the rod and tied it around the branch. The assistant then passed him a pole, which he tied to the lower part of the huge branch. After that, the assistant tied the other end of the pole to the tree trunk. This process went on until a few pieces of pole were tied firmly to the branch, making a platform on the lower part of the branch. The lower position enabled the climber to reach out to the beehive which was attached to the bottom portion of the branch.

Meanwhile, the men on the ground split rattan vines for binding and shaved away the sharp edges. Up on the tree crown, the assistants used a long rattan strip to pull up poles and rattan strips from the people on the ground. The women on the ground sang *selatok* songs as encouragement to the men on the tree top. In the dark, the activity up the tree was slow, dangerous and boring, thus the songs helped relieve their boredom and made them more alert. Also, the women made a big fire to continue drying and heating kindling for later use during the beehive burnings.

High up the tree, when the platform was partially completed, the climber set fire to the torch (*bosok*). When the torch was burning well with a big flame, he used it to sweep (*ngepua*) the bees away from the beehive. The flame burnt them and all the bees responded instantly to attack the fire. As the bees that were swept were burnt, other bees that had turned to attack the fire were also burnt. From the ground, the burning on the tree was a magnificent sight as the blazing bees dropped to the ground in great numbers. When the climber was satisfied with the burning, he hit the torch against the branch to dislocate the burning tips. As the burning tips dropped to the ground, the surviving bees went after the fire. Landing on the ground, the burning tips became extinguished. The bees then directed their attacks to the flames made by the women stationed on the ground. As the bees attacked the

[1] On the ground, after the bees had settled in their beehives, it was safe to have little lamps to light up the shelters.

fire, they were burnt to death.[1] Meanwhile, the women shook a bundle of burning kindling to distract the bees (*pipoh*) from attacking the climber on the tree. There were so many bees attacking the flame that if the women did not shake the kindling to create a strong flame, the bees would have covered the flame and smothered it. If there had been no fire, the bees would have attacked the people on the ground. After a short while, most bees were burnt to death while attacking the fire on the ground.

After that the climber resumed constructing and extending the platform to the honeycomb. When he reached it, he used a wooden blade to sever the beehive from the honeycomb. The hive contained all the bee larvae. He used a bark bucket tied to a long strip of rattan to lower down the beehive. Then he sliced the rest of the honeycomb from the branch and lowered it to the people below.

On the ground, the women squeezed the honeycomb to drain out the honey. A big honeycomb would contain up to two to three gallons of honey when the beehive was about six feet long, three feet wide and three inches thick. The honey and beehive containing the larvae were distributed equally. Everybody then enjoyed eating the beehive and larvae with the honey. It was a delicacy and soon everybody had finished their own share.

Up on the tree, the climbers continued collecting honey from other beehives until they all felt too tired to go on. By the end, they would have taken about six or seven of the biggest beehives. A big tree often had up to fifteen beehives, but not all were big enough to justify the laborious work of harvesting them. In terms of honey distribution, each individual would get a big bottle full of honey. Before dawn, the people returned to the camp set a distance from the honey tree, because at the break of day, surviving bees from undisturbed beehives would swarm down to attack any living being below the tree.

A few days later, the community moved to another big honey tree to gather that honey. Depending on the situation, they harvested only a few trees. This was because the work required the mobilization of the whole community, and also, it was tiring and time consuming. Eventually, not everyone sustained his keenness to continue collecting, but while the participating members did all the hard work, they still had to share with those who were absent. Therefore, honey collecting was of short duration, lasting only two to three weeks.

Palm Shoots, Sago Larvae, Snakes, Pangolin and Lots of Little Things[2]

During the lean season when the hunters had great difficulty in hunting game of a reasonable size, they searched for a variety of minor food sources. The forest was explored for young sago palms (*Eugeissona utilis*) to obtain the delicious shoots (*langik*). This was a reliable food source as young sago was abundant in the forest. When meat was not available, the Punan relied on these shoots to break the monotony of the bland sago paste. From earlier hunting trips the hunter recalled locations, or would walk about looking for fallen logs and holes in the ground where animals might be nesting. He lifted up the logs carefully, occasionally finding a pangolin (*Manis javanica*; *buku*) or even a python (*Python reticulatus*;

[1] Some bees also attacked the women. It is for that reason that only women were involved in holding the pieces of burning wood as it was thought they could withstand the beestings better than the men.

[2] The subtitle "Lots of Little Things" follows Dentan (1991:420).

sai) hiding underneath. He looked for places that had a lot of ants to locate the ants' nest where he might have found a pangolin licking the ants. In bamboo groves, he searched for bamboo bats (*paean bulu*). In areas with caves, he entered the caves to catch bats. When he felt hungry, he looked for various kinds of edible palm and rattan shoots. Although some palm shoots like those of *Licuala valida* Becc. (*silat*) were not palatable, they satisfied his immediate hunger. He went back to sago palms that he had harvested a few months ago to look for nourishing sago larvae (*Rhynchophorus ferrugineus* Oliv.; *ciet*). This finger-sized sago larvae was a very nourishing food with a high protein content.[1]

He took his household members to streams where there were snails (Potamonidae Family; *kew* and s*ik*) to gather them. Walking along a stream, he would see a frog dart out in front of him. In the stream, the frog then became motionless trying to avoid been seen. As the man walked in the stream looking for it, he approached it, and the frog instantly swam away again. Focusing on the direction of the frog's flight, he walked slowly, avoiding splashing water, to catch another glimpse of the frog. When he saw it, he pierced it with his spear.

The Punan Vuhang called a man who diligently (*bahik*) hunted all these kinds of small animals *nyegehok*. When he always came home with some food, his effort was known as *tapui*. When a person was not lazy (*baloh*), there was always some food to be found in the forest. Although he might have to search far and wide, he could find food for his household. The amount of meat from a single tree shrew or a frog, for example, might not have satisfied his children's desire for meat. However, the soup from this meat cooked into the sago paste (*linut*) produced a better taste than the normal plain *linut*.

Firewood Processing

The gathering of firewood happened regularly to obtain fuel for cooking. The Punan Vuhang used two types of firewood, kindling (*pipik kayu*) for making a big and hot flame, and big logs (*putdong*) for sustaining the fire.[2] They used three or four logs as the base of the hearth (*tatuk*) — two logs placed close together were separated about eight inches from the other two (or a single log).[3] Between the space, kindling was laid to make a strong flame. The advantage of using large logs was the ability to maintain the blaze for long periods, while having used only three or four pieces of kindling to light the fire. When the

[1] When these food sources became difficult to find, they consumed a kind of beetle (*Rhynchophorus ferrugineus* Oliv.; *koloson*) that produced the sago larvae (*ciet*). They also ate the honeybees (*Apis dorsata*; *singot*, *Apis florea*; *lowar*) and the insects (*pau*) that were attracted to fire during the night. In the forest, when hunters were very hungry, they ate worms to reduce their hunger.

[2] Wood that had been once submerged underwater (*okgong*) was dried and used for smelting iron. This wood was extremely hard and was able to sink. Due to its hardness, it produced a very hot flame for efficient smelting of iron. The types of *okgong* used were from the *Dipterocarpus oblongifolius* Bl. (*kuhuwei*) and the *belavan* wood.

[3] The *tatuk* also acted as the base to position the cooking pot during cooking. In a prolonged camp (*lapo luek*) lasting for more than a month, they used long stones as the base. These stones had to be taken from a riverbed permanently submerged in water. Other stones would explode when heated to a high temperature. As it was difficult to find such stones with the proper shape, the community used the *putdong* log as the *tatok* when they lived in short duration camps.

kindling was almost completely burnt, another piece was added to prolong the flame. As the tips of the logs were in contact with the fire, they also made flames. This provided another source of fuel for the fire, thus allowing a minimum use of kindling to make a big flame.

By placing the kindling on a log, a space was maintained between the kindling sticks. This allowed oxygen to be channeled into the fire to produce a big smokeless flame. The presence of a smoky fire meant there was a lack of oxygen and the kindling was then rearranged to increase the flame. When cooking was finished, the tips of the four logs were left to burn out. Covered with ash, the burning was very slow and a log would burn until there was nothing left. Depending on the frequency and length of cooking, a four foot long log would take up to four days to finish burning. As the embers burned continuously, there was no need to make a new fire.

When a person wanted to cook again, he or she poked into the embers to break them up and put a few live coals on the hearth. Then she pulled the logs closer to each other. She placed four pieces of kindling on top of the embers, and let the heat gradually warm the kindling. After a while, she blew into the embers. After blowing a few times, a flame was suddenly ignited.

For a log (*putdong*) to continue burning, it had to be hardwood so that it would burn continuously as a live coal (*bahak pui*). The ember of a soft wood died down as soon as there was no more fire to burn it. Since the Punan Vuhang used so little kindling, the kindling was also cut from very hard wood to produce a big hot flame so that it could last a long while. Consequently, the Punan Vuhang only used the best wood for firewood, such as the various tree species *kayu bua'*, *kelo'ai, lingoh*, *lubunyun*, *patik*, *lukukun* and *nyohut*, among which, *lingoh* was the best. Only when *lingoh* was not available would a person use the other types of firewood. For *putdong* or 'log' firewood, besides these woods, other types of hardwood were also used, such as very hard wood tree species (*belavan*, *kalen* and the *peja'ak*).

To make kindling, besides being hardwood, a good firewood was one that split easily (*bahah*). To test the ease of splitting the wood of a standing tree, a person made a notch (*tukap*) into the tree trunk. If the notch was easily split (*kohop*), the tree would also be easy to split for the kindling. If it was difficult, it was *nyapalut* and abandoned. However, if the tree was about six inches in diameter, they used the *nyapalut* tree for *putdong* or 'log' firewood. The kindling required drying to burn efficiently. After splitting, the sticks of kindling were arranged and piled on a sturdy frame (*puhuk pui*) above the hearth. The heat produced from cooking dried the kindling. The logs (*putdong*) could be used immediately after chopping and there was no need to dry them.

While the Punan Vuhang only used good firewood from standing trees, when they first camped at a site, they used dry wood for firewood. There were two stages of firewood collecting. The first was collecting dead dry wood from around the campsite on the day of arrival. Wood from broken branches and dead trees provided ready firewood. It was used for cooking on the first two days. It was fire from this wood that heated and dried the freshly cut kindling piled on the fireplace. From the second day onwards, only good firewood was gathered for cutting and splitting into kindling. When the earlier collected firewood was finished, this kindling was then used.

Collecting Medicinal Plants

When a person was sick, household members ventured into the forest to look for certain plants that could alleviate the sickness as shown below in Table 4. Certain plants were found in different areas, some in the lowlands and others in the highlands by the mountains.

Table 4: Medicinal Plants and their Uses

Plant	Use	Preparation
arok kok	Relieves swelling and heals skin disease	Leaves are pounded and filtered for juice which is dried over a fire. The residue is used to rub on the affected parts.
janan	Relieves bad hearing and ear disease	Fruit is heated and resulting steam blown into the affected ear.
kayu tabat	Relieves pain in joints and bones	Tap root is shaved (*munguhut*) and then boiled in water. The concoction is used for drinking.
	Relieves itches on dogs	Root and leaves are pounded together, then boiled and rubbed on itchy parts.
kelepui terkakang	Heals wounds, including ones to the eyes	Twigs are mashed, and the pulp is covered with cloth for pressing on the wound.
kubu'wan	Relieves stomachache, vomiting and chest-pain	Fruit is mashed, boiled and used for drinking, or fruit is preserved for this purpose; or the *lalit* root is scraped (*ngehet*) and boiled, the concoction used for drinking.
	Relieves muscle sprain	Skin is slightly cut to produce an abrasion for slight bleeding *(mirak),* the pounded leaves are massaged *(muhuat)* into the wound, or the scraped bark is wrapped on the skin.
kumulang	Expels bad spirit in ritual	Leaves are fanned over the sick body, the bark is scraped (*ngehet*) and rubbed over the painful part.
	Relieves stomachache	Leaf stalks are soaked in hot water and the concoction drunk.
larau	Rids bad spirit in ritual	Use burning leaves to hit the shelters while chanting to get rid of spirits.
laun kelipat	Heals diarrhea	Similar to *kubu'wan* as above.
long	Overcomes fainting	Root is mashed, boiled and concoction used for drinking.
okar dak	Heals diarrhea	uncertain
okar jala buku	Alleviates toothache	Leaves are roasted and ground into powder which is rubbed onto the gum or face to extract pus; to force out the pus, the person chews a piece of tough meat.
okar kalawit	Heals diarrhea	Scraped vine (*ngehet*), boiled and drunk.
okar kubulong	Relieves caterpillar itch	Rub leaf on itchy skin.
okar kutupou	Relieves caterpillar itch	Rub leaf on itchy skin.
	Relieves bee stings	Rub with a leaf.
	Avoids bee stings	Rub leaves all over the body, burn leaves to produce an incense that makes the bees docile.
okar purut	Heals diarrhea	Uncertain

Table 4: Medicinal Plants and their Uses (Continued)

plant	Use	Preparation
okar savit	First aid for wound	Wound is covered with the leaves and secured by tying to stop bleeding.
	Heals wound	leaf shoot is soaked in hot water and placed on the wound.
	Relieves stomachache	Leaves are chewed and swallowed.
okar talo ovan	First aid for wounds	The leaves are placed over the wound and tied in place to stop bleeding.
paku lipan	First aid for wounds	The leaves are placed over the wound and tied in place to stop bleeding.
	Heals serious wound with heavy bleeding	Leaves are mashed, boiled and used to cover the wound while still hot; as the pulp is still hot, it produces a sharp pain when placed on the wound.
patar	Relieves muscle strain	Skin is slightly cut to produce slight bleeding *(mirak),* the pounded leaves are massaged *(muhuat)* into the wound, or the scraped bark is wrapped on the skin.
sadai	Relieves chest pain or vomiting	Bark is scraped, chewed and saliva swallowed.
sirau	Relieves muscle sprain	Skin is slightly cut to produce slight bleeding *(mirak),* the pounded leaves are massaged *(muhuat)* into the wound, or the scraped bark is wrapped on the skin.
tobo	Relieves stomachache	Bark is mashed, juice squeezed into cold water and then drunk immediately.
tung garing	Hastens swelling of abscess (boil), induces it to "ripen"	Vine is mashed, heated by fire and used to cover the boil.

Source: Fieldwork 1993-1995

Conclusion

Being mobile in the past, the Punan Vuhang moved from place to place, giving resources time to regenerate. Initially, arriving in a new area, game animals were easy to hunt, as they were unfamiliar with humans as predators. Eventually, however, they developed avoidance habits that prevented hunters from spotting them. Hunters then used many ways to hunt and trap them. When they had exhausted the larger and medium sized game, they combed the forest for a variety of other foods. Some were nourishing, others not, but helped to relieve their hunger. Over a prolonged season of scarcity, the Punan Vuhang became very thin. Nonetheless, the diverse food sources helped them survive, for as long as one was diligent, there was always food. If a hunter did not get anything, others would, and the system of sharing and reciprocity helped tide them through. This system is the subject of the next chapter.

Building upon the previous chapter on the rainforest environment and their former mobile economy, this description of Punan Vuhang hunting and gathering clearly shows that the Punan Vuhang had developed strategies well adapted to survive in the rainforest. It also shows that the rainforest itself was not devoid of food, but could sustain a human population without reliance upon outside sources of food.

Chapter Four: Sharing, Trade and Resource Tenure

In the previous chapters we have looked at how the Punan Vuhang adapted to the rainforest and the techniques they used to hunt, gather and process food. This chapter examines the social relations of production and exchange: sharing and reciprocity, barter trade, and resource tenure. In fashioning a life for themselves in the rainforest, the Punan Vuhang did more than merely survive, and in tracing the historical development of barter trade, we will see, in particular, how the Punan Vuhang were induced to participate despite the fact that the trade goods they received had little, if anything, to do with subsistence needs. In the section on resource tenure, we shall see how despite the abundance of food in the forest, the community restricted access to sources of food to conserve resources for later use to ameliorate the impact of future food scarcity.

Reciprocity and Sharing, *Putulat*

In the past, the principle of reciprocity and sharing (*putulat*) ensured that most food items were shared with other households. There were two levels of sharing: generalized sharing, which required that food be shared among all households in the community; and sharing a much larger portion of food among households closely related to the household giving out the food. Households included in this latter sharing comprised the households of the hunter's and his spouse's siblings. I term these closely related households the primary sharing network, as the main share of food items was given to them, in contrast to a much smaller share to other households.

To better explain the sharing system, the following description is based on the actual system as it operated from 1993 to 1995. Table 5 (see page 132) below shows the primary sharing network of every household in the community. Note that Households 4 and 14 do not contribute anything to other households. Household 4 is headed by a widow with four children who relies on her siblings for food (i.e., Naro, Mangu, and Loyen). Household 14 is that of Luhat, a very old man living by himself. Despite not contributing food to other households and being the sole member in his own household, he has the right to receive an equal share from Naro, who is his adopted son. However, he has requested that his share be only a small portion.

This Punan Vuhang primary sharing system corresponds to that described by Testart who suggests that such systems of sharing conform to different types of kinship terminology. According to Testart, this system

> poses the principle of appropriation by the producer, places the producer [that is, the hunter] into an individual relation with his own product, therefore into a relation with himself. The other—i.e. the non-producer—only exists in the beginning as an absent and excluded term, the person who has no product, who is not an owner. It is only in the second phase, that of distribution, that the other enters, as the potential end of the distribution process: he only comes in at the end, and then has a subordinate role. The distribution process is a totality of movements which all start from the same individual . . . with diminishing force the further they are from the point of origin. It is in this context that kinship relations must be located: closest kin receive the most, furthest least (1987:294-295).

Testart further notes that this kind of distribution system fits an Eskimo type of kinship terminology. The system is ego-centered, with terms distinguished by proximity or distance in relation to ego. An ego-based kinship system is one in which kinsmen are organized in concentric circles, with parents, siblings and children as the closest kinsmen. First degree kin include uncles, aunts and cousins with terminology conflating the two collateral lines. Beyond are kin of the second degree. He stresses that this kind of kinship system is, in effect, found among hunter-gatherers who have a sharing system similar to that of the Eskimo and !Kung Bushmen.[1]

When we examine the kinship terminology of the Punan Vuhang, we find that in their sharing system the terms of reference focus on the producer. Thus, households in the primary sharing network include the first degree consanguineal kinsmen of the household head and his affinal kinsmen related to him through his spouse. In reference terms, these members are *yek* (elder siblings) and *arin* (younger siblings); *mak* (father); *mak mek* (uncle), and *minek* (aunt); and *nak*—married children who have their own households (see page 260 for reference terms).

If we take the case of Naro (HH 3), we see that the kinship system described by Testart closely fits the Punan Vuhang system. Naro's primary sharing network members comprise his siblings—Loyen, Kiam and Mangu. Also included is Luhat, his foster father who stays by himself. His adopted daughter Ella also receives an equal portion. The other part of the network includes his spouse's siblings—Jimol and Kudun, and her father's brother, Nahon. With Naro as producer and his spouse Vihing forming the egos at the center, the Punan Vuhang kinship system has close kinsmen constituting the primary sharing network. Ego has absolute right to his game and he distributes the biggest shares to members of his primary sharing network. Whatever remains is then given to the rest of the community. Nobody has the right to take the product from the hunter and his wife, unlike societies practicing demand sharing.

Why Punan Vuhang practice such primary network sharing of giving bigger shares to households of close kinsmen is probably due to the functional attributes of the band system when they were practicing a mobile economy. During lean times, the community divided itself into two or three bands in order to forage a much larger area. Each band comprised households made up of immediate kinsmen. It was during lean times that community members relied most heavily on sharing to sustain themselves in the face of food scarcity. Sharing at such times was vital because hunting success was generally low. As such, the game killed by a hunter helped provide for the whole band. When another hunter also killed game, other households would receive a share so that all would have their needs met. For practical reasons, the sharing did not extend to the other bands foraging far away.

[1] For a discussion of the institution of sharing, see Dowling (1968), Gould (1981), Kaplan and Hill (1985), Kent (1993) and Peterson (1993).

Table 5: Primary Level Sharing Network among the Punan Vuhang, 1995

HH No.	Household Head	Spouse	Primary Level Sharing Network – Heads of households to which food is given bigger shares	
			Kinsmen of household head	Kinsmen of his spouse
1	Lajang	Loyen	None	Surek, Naro, Kiam, Mangu
2	Surek	Ella	Lajang, Nyaing, Olan, Kuyang, So'ing, Bom,	Naro, Bawek (Bom's husband)
3	Naro	Vihing	Loyen, Ella, Kiam, Mangu, Luhat	Jimol, Kudun, Nahon
4	Kiam	-	-	-
5	Jimol	Ngui	Vihing, Kudun	Rahut
6	Riyek	Naut	Tawing, Sayun	Ngui, Ngarik
7	Mangu	Nya'ing	Loyen, Surek, Naro, Kiam	Olan, Kuyang, So'ing, Bom
8	Lidut	Olan	Nguwek	Surek, Nyaing, Kuyang, So'ing, Bom
9	Sayun	Kuyang	Nigau, Riyek, Ngarik	Surek, Olan, Nyaing, So'ing, Bom
10	Sakung	So'ing	Bawek, Ella, Ngion	Surek, Nyaing, Olan, Kuyang, Bom
11	Kilat	Nguwek	Sabung	Nyaing, Olan, Kuyang, So'ing, Bom
12	Tawing	-	Riyek	-
13	Kudun	Ngarik	Kilat, Vihing, Jimol	Riyek, Nigau
14	Luhat	-	-	-
15	Nahon	-	Vihing, Luhat	-

When a band happened to find an area with fruit during a minor fruiting season, it would invite another band facing scarcity to join them. This temporary gathering of bands was called *ngarang*. Even though the amount of fruit during the minor fruit season might have been small and the corresponding wild animals few in number, the host band still would invite the other band to stay with them. In the future, it might have been their turn to face food scarcity and be invited by a group with abundant food to join them. The guests remained at the place for as long as resources were sufficient to sustain them. When food sources gradually diminished, the visitors left their hosts to forage on their own in another location.

The lean periods necessitated generalized sharing which was then carried over to times of abundance when the bands would converge. Sharing and reciprocity enhanced the relationship between the members of different bands. As such, the Punan Vuhang's system of generalized sharing and reciprocity fits the notion of "reciprocity as insurance" introduced by Wiessner (1977) and Cashdan (1985). In this context, the theory of risk and insurance is used to discuss risk as a reference to the chance that an unpredictable loss will occur and, insurance is seen as a device for reducing risk by sharing losses. A reciprocity network

similarly acts to reduce risk by making it an obligation to help when someone else is in need (Cashdan 1985:455-456).

The Punan Vuhang generalized sharing system corresponds to the risk reduction hypothesis of Wiessner. According to Wiessner

> The most efficient method of risk reduction open to hunters and gatherers in environments like that of the !Kung, then, is a social method of pooling risk through storage of social obligations. The method encompasses many principles of any social insurance and hinges on the assumption that the population which pools risk is diverse enough to absorb the losses of any member. In pooling risk, small, certain losses or contributions are substituted for larger, uncertain ones. Among hunter-gatherers, the small contributions cannot be stored in a communal pool, so they must be stored in social obligations. A person creates relationships of mutual reciprocity with others in the population and thereby spreads losses over a unit much larger and more varied than the local band. In times of hardship, a person's losses can be absorbed by others in the population, if risk is well distributed. . . . The key factor in successful pooling risk, then, is in distributing it over as many and as independent units as possible (1982:65).

Generalized sharing, despite the small amount of meat shared when the people were camped together, ensured that the other party would reciprocate during lean times. The party lacking food did not feel embarrassed to request from the one that had food, knowing that they would oblige by giving food to the visitors. The amount given during generalized sharing was small, but the amount of food given in return during lean times was important to overcome famine. This notion of reciprocity therefore fits the notion of risk and insurance presented by Wiessner.[1]

Distribution During the Hunt (*Sapah*)—Another level of sharing also corresponds to Testart's focus on ego as the point of reference (1987:295). In a group of hunters hunting with dogs, the greatest right to the game was held by the owner of the dogs, regardless of whether the owner or somebody else killed the quarry. Similarly, if the pack of dogs consisted of dogs from different households, the owner of the dog that first detected and barked at the game held the primary right to the quarry. Through its barking, each person recognized the identity of the dog that first encountered the game.[2]

Table 6 shows the rights of different hunters to which parts of the game. The dog's owner held the right to the chest, waist and offal of the game, that is, the best and most delicious portions. Following that, the distribution of shares depended on the sequence of arrival by the hunters.

- The first person to reach the animals, regardless of whether the dog's owner arrived first or later, received the next biggest share of the carcass. If there were only two hunters, he received the rump, hindquarters, neck, front A-shaped portion of the chest and the stomach.

[1] See also Cashdan (1990), Smith (1988) and Smith and Boyd (1990) for a discussion of risk and reciprocity.

[2] At various times, disease may kill many dogs. Sometimes, as a consequence, only one or two households will have enough dogs to conduct a hunt. More frequently, the few dogs from separate households have to be combined to form a hunting pack.

- When there were three hunters, the second person to arrive received the neck and forequarters by taking the share of the first hunter.
- When there were four hunters, the owner and the first person retained the shares that were similar to a three-person hunt. The second person's share was less as he received the jaw, the neck and forequarters. The third person took the smallest portion, the part of the head above the jaw.
- In a group of five hunters, the limbs were given to the fourth hunter. This meant that the limb sections of the portions of the first and second hunter were given to the fourth hunter.
- In a six-person group (the maximum number of hunters in a hunting group), the fifth hunter received the hind limbs which had slightly more flesh than the forelimbs. The last hunter received the hind limbs. The intestines were given to the dogs immediately after the hunt.

Regardless of the number of hunters who participated in the hunt, the owner of the dog consistently retained the same share of meat, that is the chest, waist and offal. The dog's owner retaining the same share of meat regardless of the number of participating hunters shows that the system was focused on an ego-centered sharing system. It was the participating hunters who received the lesser shares as more and more hunters joined the hunt. The ideal number of participating hunters was limited to six, as sharing beyond that required taking away from the shares of hunters who arrived earlier.

On rare occasions when the number of participating hunters went beyond six, the first arriving hunter got the A-shaped part of the chest and stomach, with the rump divided between the second and third arrivals. The neck was cut into four portions for the fourth to the seventh person, the jaw for the eighth, and the head section above the jaw for the ninth hunter to reach the quarry. If even more hunters participated in the hunt, the upper portions of the front quarters were given to the tenth and eleventh hunter, while the lower portions were retained by the dog's owner. The twelfth hunter was given one thigh of the hindquarter. The lower limb and the other thigh was given to the dog's owner for distribution to the rest of the community who did not form the primary sharing network. Beyond this number of hunting participants, and if they were still other hunters, the thigh given to the twelfth hunter was further divided into three portions of a meager share for distribution to the twelfth to fourteenth hunter.

The distribution of other types of large game was quite similar to that of wild boar but with differing modes of sharing. Sharing the huge sambar deer and the smaller-sized barking deer followed the same mode of distribution, although the stomach in both cases was retained by the dog's owner. In the case of a wild boar, the first hunter held rights to the stomach. For a monkey, the waist section that contained the rump and hindquarters was given away to the participating hunters.

Table 6: Rules for Sharing Wild Boar among Participating Hunters

No. of hunters	Arriving Sequence	Punan Vuhang Name	English Name
1	dog owner	*tup*	whole game
2	dog owner	*tavung,*	chest, waist,
		ang sok luang	offal
	1st	*sagek,*	rump, hindquarters,
		tarok,	neck,
		ohuk,	A-shaped part of chest,
		tukang	Stomach
3	1st	*sagek,*	rump, hindquarters,
		ohuk,	A-shaped part of chest,
		tukang	stomach
	2nd	*tarok*	neck and forequarters
4	1st	*sagek,*	rump, hindquarters,
		ohuk,	A-shaped part of chest,
		tukang	stomach
	2nd	*jan,*	jaw,
		tarok	neck and forequarters
	3rd	*takang*	head above the jaw
5	1st	*sagek,*	rump, hindquarters,
		ohuk,	A-shaped part of chest,
		tukang	stomach
	2nd	*jan,*	jaw,
		tarok	neck and forequarters
	3rd	*takang*	head above the jaw
	4th	*pan, pon*	limbs
6	1st	*sagek,*	rump, hindquarters,
		ohuk,	A-shaped part of chest,
		tukang	stomach
	2nd	*jan,*	jaw,
		tarok	neck
	3rd	*takang*	head above the jaw
	4th	*pan*	hind limbs
	5th	*pon*	forelimbs
10	1st	*ohuk,*	A-shaped part of chest,
		tukang	stomach
	2nd & 3rd	*visi sagek*	half of the rump
	4th – 7th	*visi tarok*	one quarter of the neck
	8th	*jan*	jaw
	9th	*takang*	head above the jaw
12	10th & 11th	*pon*	upper limb of front quarter
	12th	*pan*	one hind quarter thigh
14	12th – 14th	*visi pan*	one third of the thigh

Note: Regardless of the number of participating hunters, the owner of the dog that first detected the game retained the main parts of the wild boar, similar to the two-hunters group

The sharing system for other types of animals differed from that mentioned above due to their small size. In the hunt for smaller game, dogs were not used and the game was usually obtained through blowpipe shooting or snared in noose traps. In this kind of hunting or trapping, if anyone were to follow, it would usually be only one more person. For mousedeer, the upper part of the carcass that contained the forequarters (*ulun*) was given to the participating hunter while the main hunter retained the right to other parts of the carcass. For mousedeer, the rump was not given because it contained only a little flesh. For big fish, the tail portion below the rib was given. In big birds, the bony back portion (*langareh*) of the carcass was given while the fleshy front part (*barong*) was retained by the hunter.

The first person who saw the return of a successful hunt was given a bigger share. Similarly, a child who first saw the return of a hunter with a wild boar and who made the cooing call would also be given a bigger share. Consequently, old men who were too old to hunt by themselves watched out for returning hunting dogs. If the dogs had abdomens bulging with the game's internal organs, an old man would walk to the path the dogs' owner had taken to go hunting. Waiting there, he would likely be the first person to see the hunter's return and thus would receive a bigger share of the game.

This description of how sharing was done shows the complexity of the sharing system. The essence of it was the assurance that a hunter would be provided for when he did not obtain any game. Whether it was by the generalized sharing or the primary sharing network, a household could be assured of receiving some share of the game of a successful hunter. In times of abundance, everyone, and in particular those closely related to the successful hunter, participated in the bounty. On the other hand, in times of scarcity, sharing then became an insurance for obtaining some food from successful hunters.

Barter Trading

This section attempts to reconstruct the historical development of barter trading based on accounts as reported by informants. It also attempts to discern possible motivations of barter traders who faced much difficulty traveling into Punan Vuhang country. The third part describes activities related to trading.

The preceding chapters on the nomadic economy have shown how, in the past, the forest most likely provided all the food consumed by the Punan Vuhang. A brief description of Punan Vuhang material culture similarly indicates that they were able to meet many of their basic needs without contact with outsiders. The following account is from Luhat Tehin, the oldest individual who could recall stories of former life as narrated in the past. According to Luhat, before their forefathers had metal pots, they cooked meat inside bamboo tubes and molded clay pots to process fat into preserved lard. The hunter-gatherers used tree bark for cooking thin pieces of meat and sago paste that required only a short period of boiling.[1] They processed tree bark into barkcloth to cover themselves. For metal tools such as adzes, knives and spears, the people resorted to traveling long distances to the

[1] In one of our journeys to Belaga, we passed by a fishing camp of the Penan, another former hunter-gatherer people living far downriver and they shared with us fish cooked in tree bark. My Punan Vuhang fellow-traveler said their forefathers similarly used such a method to cook. I was amazed that the bark did not burn. They explained that the tree bark must be thick and cut from a living tree. Then it is damp and will take time to burn, by then, the food will already be cooked.

abandoned burial grounds of sedentary people to unearth tools. After the shamans offered rituals to appease the spirits of the dead, they dug up the tools that were buried in the cemetery. From this account, essentially, the forefathers of the Punan Vuhang did not have to establish exchange contacts with the outside world to meet their needs and their subsistence production sufficiently sustained them.[1]

After the 1923 Peace Making Ceremony in Kapit, the Punan Vuhang were involved in barter-trading to obtain materials that they could not produce with their simple level of technology.[2] A reconstruction of the historical development of barter trading helps clarify how the Punan Vuhang have participated in this exchange of products despite not really needing trade goods for survival.

The Punan Vuhang wove fine rattan products and lived in an area in which high quality rattan was plentiful. Their mats and baskets were said to be among the best in the region. The products were in great demand among neighboring sedentary people who did not have sufficient rattan of their own or lacked the time to weave mats and baskets. The Punan Vuhang were also skilled in obtaining rare and valuable bezoar stones and rhinoceros horns, forest products that fetched extremely high prices in the downriver bazaars.

In the face of Punan Vuhang self-sufficiency, traders had to devise strategies to induce the hunter-gatherers to produce or procure forest products for barter trading. Initially, traders appeared to have brought in materials such as cooking pots, knives, adzes, spears and flints for making fire that made the hunter-gatherers' lives easier. They also introduced cotton clothes to replace the rough barkcloth that was stiff and uncomfortable. These materials were durable and the amount needed was small. Once the Punan Vuhang had acquired these items, there was no longer any necessity to trade. Moreover, the procurement of materials for barter trading required considerable work. Processing raw rattan into the final products, for instance, was extremely monotonous and the search for bezoar stones was highly dependent on luck rather than on skill.

To entice them to persist with these activities, traders brought along ornaments. They also introduced salt and tobacco which was highly addictive. Due to a desire for ornaments and their dependency on tobacco, the Punan Vuhang were enticed into a barter trade economy.[3] Table 7 compares the materials that the Punan Vuhang could obtain from the forest with those they procured through barter trading.

Barter trading was mainly conducted with Kayan headmen and aristocrats from the Balui River who had a great desire for Punan Vuhang products. Besides bringing trade goods obtained in expeditions to the Belaga or Kapit bazaars, they also brought along tobacco that they had cultivated in their swiddens. Brought in large quantities, tobacco was given as advanced credit to bind the Punan Vuhang into a trading relation so that they would

[1] In the past, two subgroups of the Punan Vuhang — the Punan Terkalet and Punan Nuo — were hostile to other people, including traders who came to trade with them.

[2] Before this period, the era of headhunting would have made it too risky for trading parties to go deep into the forest to meet the Punan Vuhang.

[3] Tobacco addictions were not fully satisfied. Since trading was seasonal and only conducted after the annual tobacco harvest, the tobacco supply was limited. Not long after the traders departed, the supply would be depleted and the Punan Vuhang had to then endure without it.

produce a steady supply of rattan products. In return, in debt to the traders who stayed with them for long periods, frequently up to three months at a stretch, the people worked hard to produce the goods needed to pay off the debt. The desire for tobacco was therefore an enticement that bound them into a long-term relation with the traders.

To a much smaller extent, trading was also conducted with longhouse dwellers from the Kalimantan side of Central Borneo. These longhouse dwellers traded rice, tobacco and metal tools which Kenyah blacksmiths made from local iron ore, for cloth and salt that the Punan Vuhang obtained from Balui traders on the Sarawak side. Living in an extremely remote part of Borneo, the Kenyah faced tremendous obstacles and a long journey downriver to get outside materials from coastal towns in Kalimantan. In comparison, journeying to the Punan Vuhang camps was much easier. Other items of trade were pig lard and smoked meat. During periods when wild boar could only be found on the Sarawak side of the border, these Kenyah people would cross over to trade for meat and lard.[1]

From this brief description, we see that virtually all essentials for survival were obtained from the forest. Only metal tools had to be obtained through trade, and in the distant past by digging into burial grounds of longhouse communities for knives and adzes. Ornaments and tobacco, on the other hand, were luxuries, as survival did not depend on them. The stimulus for trade therefore came from outside the community, from the traders who desired the goods that the Punan Vuhang were able to produce. In time, the Punan Vuhang came to enjoy the advantages of trade goods that made their lives easier.

Motivation of Traders

Here, as trade relations were initiated and maintained by traders coming from outside the community, it is necessary to say something about what motivated the traders to make the long and difficult journey to Punan Vuhang country. Traders were, in the past, mainly headmen from the stratified Kayan community. Their main purpose for trading was to acquire costly materials such as brasswares and beads to enhance their social standing. A brief description of the social organization of the Kayan provides a background for this concern for social enhancement. The Kayan generally practiced uxorilocal residence in which a man married into his wife's household and became subservient to the members of her family. In order to remain in his own household, a man had to pay a substantial brideswealth (*blian*) to his wife's household (Chan 1991:79; Rousseau 1974a:157; Tsugami 1987). This consisted of valuable objects such as an ornamental knife with decorated sheath (*malat bukal*), brassware (*tawak* and *gong*), necklaces of beads (*inu*), and a few extremely precious beads (*lukut*). In addition, he had to hold several lavish ceremonies related to the marriage. Only the headman of a longhouse community could obtain these objects and organize the ceremonies through a complex corvée labor system (*mahap*) and barter trade.

[1] Due to this difficulty in transportation, during the decade of the 1960s, most of these longhouse communities migrated en masse to the downriver areas of East Kalimantan. Two groups left for Sarawak. The Kenyah Badang are settled at three areas, Long Busang, Long Dungan and Data Kakus. Another group, the Kenyah Bakong, lives in Long Singut. The Punan Kihan, a splinter group of the Punan Vuhang, migrated to the headwaters of the Rajang. Today, they live at Long Unai and now call themselves the Punan Long Unai, after the location of their current settlement.

Briefly, the corvée labor system required all households of commoner status (*panyin*) to provide labor during the most important cultivation stages to the ruling household (*amin ayak*) in the longhouse community. With additional labor provided by the slaves (*dipen*) owned by the headman, the corvée system enabled the headman's household to cultivate a large surplus of rice and tobacco. Much rice was needed for food during a one-to-three month trading expedition. Tobacco, as already mentioned above, was among the main exchange items in barter trading. Other than a headman, no other household could produce a sufficient surplus of material to conduct a trading expedition.

Using Punan Vuhang mats and baskets acquired during former barter trading, the headman made a second round of trading expeditions to the Belaga or Kapit bazaar. Here, the headman exchanged these rattan products for metal tools and bales of cotton cloth for a further round of trading expeditions. The headman thus acted as a middleman, making huge profits by exchanging the rattan products produced by the Punan Vuhang for trade goods obtained from the bazaar.

After a few trading expeditions, the headman could acquire the necessary brideswealth that enabled one of his sons to achieve virilocal residence and so bring a wife of high status into the household. As a result, this son could then replace him as the longhouse headman. Failing to fulfill this social obligation, when the headman reached old age, none of his sons remained in the household to succeed him. He then had to relinquish his headmanship to a son-in-law married into the household. As a result, his personal standing within the community would be diminished. In turn, the son or son-in-law who later became headman had to carry out trading expeditions of his own in order to maintain his social standing.

Because of this use of barter trading to maintain a headman's social standing, once the goal of acquiring brideswealth valuables had been fulfilled, there was no longer any necessity to continue trading.[1] It was for this reason that barter trading to Punan Vuhang country was relatively infrequent, so that the hunter-gatherers received only a few expeditions a year. Since a headman needed to assist only one of his sons, a limited number of trading expeditions were generally adequate to acquire the necessary brideswealth.[2]

[1] According to my observations among the Kayan, only the previous headman of Uma Nyaving Long Linau had amassed much wealth, consisting mainly of brassware kept in his storehouse. This former headman, Ulok Imang of Lahanan origin was an exception. Instead of virilocal residence, he had married into the household of his wife, whose father was the headman of the Kayan longhouse of Uma Nyaving. He became headman by virtue of his spouse's brother relegating the headmanship to him. His brother-in-law, Tajang Laing, is a prominent politician and businessman, and therefore could not assume the duties of a headman. After his retirement from active politics, Tajang Laing returned to the community and became the headman. It is plausible that Ulok Imang had to amass much wealth to avoid being overshadowed by his brother-in-law. He eventually emerged to become the richest man in the Belaga district. His situation is also peculiar in that he does not have a son to succeed him through virilocal residence.

[2] Since the 1980s, however, development in the Balui headwaters has changed these trading conditions. The introduction of commercial items such as outboard motors, chainsaws, various consumer goods, and the need for money to send children to school has resulted in increased trading expeditions into Punan Vuhang (and Penan) country.

Trade Goods as a Means of Exchange

Rattan gathering and processing was, and continues to be, the main mode of trade goods production and involves the entire household, although in the past, hunting and trapping for animals with bezoar stones were also important activities. As hunting and trapping have already been described, the focus here is on rattan production. The description is in the present tense since it still goes on today, and is based on my observations.

The Punan Vuhang engage in barter trade whenever traders come to stay with them. When the traders led by a headman arrive, they give some tobacco as a gift to every Punan Vuhang individual. This gift is a goodwill gesture since the traders are going to stay with them for a long time and depend on their goodwill to survive.[1] In addition, Punan Vuhang crave tobacco and it is not socially acceptable to begin trading immediately. After smoking the gift, depending on the number of women available in each household to weave mats, some tobacco is traded in advance to the households that will supply the rattan products. The tobacco helps sustain the men during the strenuous activity of rattan collecting, and the women during the monotonous work of rattan processing and weaving.

Before the Punan Vuhang adopted cultivation, the community would process as much sago as possible over the next few days, as they would have to move to areas with abundant rattan for weaving, using for this purpose only the high quality *Calamus caesius* (*uwei gak* or *uwei mongo*). If they were camped in the headwaters of the Linau or the Kajang, this type of rattan was lacking, and they would have to move to the mid-Kajang or mid-Linau areas where it was prolific.

During my fieldwork, I observed that for as long as the traders were around, and the goods they had brought for trading were still available for exchange, the women continuously wove rattan baskets and mats. While the men were out hunting, the women would weave mats, and process sago with their husbands whenever necessary. Rattan collecting, processing and weaving required several work stages. Instead of a mere technical description, I will describe these daily activities as part of community life.

After constructing the shelters and collecting food, the men set out to collect rattan, with each man camping at an area where many rattan groves are present. In these groves, the vines grow upwards to the tree canopy to obtain sunlight. The collector hits a mature vine with his knife to loosen the dead outer layer of thorns on the leaf sheath. He cuts the vine and twists it to remove the layer of old thorns. To avoid later entanglement of long rattan vines, he inserts the base of the cut vine into the ground. He then pulls down the long vine, removing the thorns by swinging and twisting the vine before gripping the upper parts. He continues pulling until the vine is held fast to the tree canopy. With his body weight and all of his strength, he pulls it down until the middle portion of the vine falls from the canopy. He continues pulling until the vine cannot be tugged anymore as the crown of the rattan vine is secured to the tree canopy. Then he stands on his toes and cuts the vine off at the highest possible place. While a vine can measure up to a hundred feet long, some are much shorter.

[1]Due to the great distance from their homes on the Balui River, traders stayed with the Punan Vuhang for periods of up to three months. Because of the long journey, they would finish consuming their own food supply and have to depend on the Punan Vuhang for their survival, participating with their hosts in hunting and sago processing. This was especially so when the Punan Vuhang camped at the Danum and Linau headwaters.

A young man by virtue of his strength can pull a greater length of vine from the canopy. An old man, by comparison, is likely to give up the first time the vine becomes entangled. Through this strenuous process of pulling and twisting, a man collects as many rattan vines as possible. He then gathers the vines and coils one end of the vines and lets the main length of the vines fall on the ground. He puts his arm through the coil to let it rest on his shoulder. He may collect more rattan from the next grove. Then he drags the bundle of long vines back to the camp.

Upon reaching the camp, he cuts the vines into lengths of about six and a half feet. When dried and split, these are used to weave mats measuring six and a half feet long by five feet wide. After that, working into the night, he and his household members remove the scales that form the outer layer of the vine, by pulling and twisting the vines against a piece of wood. They then scrape off the hips covering the internodes with a small knife. The next day, they place the vines in a clearing under the sun for drying.

Once the vines are sufficiently dry, the people resume processing the rattan immediately after having dinner. First, depending on the size of the vines, they split each vine into four or five strips that measure about three millimeters wide. They remove the pith and then shave the split vine into fine strips of about one millimeter thick, retaining the outer layer of the rattan for the top part of the mat. This thinning process requires at least a day or two. If they need it, the women then dye a portion of rattan strips by cooking them in a mixture of clay and a type of leaf for several hours. Later, they wash away the clay, leaving shiny black rattan strips. Finally, they weave the rattan strips into mats.

The thinning and weaving are usually carried out in a pleasant atmosphere. During the day, the women sit together weaving their mats. They chat, gossip and laugh to generate an enjoyable feeling. This atmosphere is important, otherwise the weaving work would be an extremely dull affair.[1] A mat requires about four to five days to weave, or less if the women have few other chores to do.

During the night, the women continue weaving together. In the past, for light, they made small fires from resin (*ketitei*). While the women are weaving, the men crack jokes and describe their experiences during the day, such as tracking quarry or pursuing wild boars. Storytellers tell *suket* stories, myths and legends. They also play the *sape* to accompany *ngajel* dances. Each person, especially the women, takes turns to dance to provide entertainment for the people and their guests. Also, with the tobacco supplied by the traders, they have a stimulant to keep them going through the repetitious activity of weaving.

For as long as the traders remain with them, the community carries out rattan collecting, processing and weaving. The women weave every day except on days when they process sago together with their husbands. The men, meanwhile, accompanied by the traders, explore the forest for food and hunt game. When the collected rattan supplies have begun to dwindle, they go to a new area to gather new supplies of rattan for the women to weave into more mats.

In the past when they still practiced the mobile economy, during the dry season and when food was sufficient, the men might carry out expeditions into distant areas to

[1] For that matter, mat weaving is forbidden during the mourning period as weaving is thought to require a happy feeling.

search for bezoar stones by hunting leaf-monkeys (*Presbytis hosei*; *bongat*). Some eighty years ago when rhinoceros (*Dicerorhinus sumatrensis*; *tamaru*) could still be found, they hunted it for its extremely valuable horns. Hunters searched the Bangan-Bahau valley and the Lesong River in Kalimantan for leaf-monkeys and the Laut Kakup mountain range for rhinoceros. While chances of obtaining bezoar stones were higher, few rhinoceroses were ever hunted, and those who succeeded in killing them became famous, for example, Uleh and Ukin, who died in the early 1900s. Alternatively, the hunters might trap porcupines (*Hystrix brachyura*; *totung mucit*, *Thecurus crassispinis*; *totung kelien*) to obtain bezoar stones.[1] Although bezoar stones fetched high prices, very few monkeys or porcupines contained stones. Similarly, it was only by luck that a hunter might kill a rhinoceros. Usually, hunters failed to obtain anything. Consequently, rattan mats remained the principal item exchanged for trade goods. All that was needed was diligence to produce the mats and the weavers received tobacco to relieve their boredom. Today, they take the addictive but highly effective drug "Kaki-Tiga" to relieve the monotony (see page 289).

To sum up, barter trading and related activities were seasonal and making goods to trade was only done while traders were present in the country. It was seasonal because traders had to make the long difficult journey to Punan Vuhang country. The demand for Punan Vuhang products was the chief motivation, particularly woven mats. To cement trading relationships with the Punan Vuhang, traders introduced a highly addictive form of tobacco which caused a craving for the substance.

Table 7: Essential Goods During Nomadic Times

Main Items	Locally Available	Through Trade
Carbohydrate food	sago starch, sago shoots, fruit	-
Protein food	meat, fish, sago caterpillars, fish	-
Cutting tools	knife handles, adze shafts	blades of knife and adze *
Hunting tools	spear shafts, blowpipe shafts, blowpipe poison, trapping materials, fish harpoons, fish hooks from certain animal bones	metal tip of spear and blowpipe *
Healing medicines	herbs, roots, vines, leaves, berries	
Cooking implements	tree bark, bamboo tubes, clay pots	metal cooking pots
Rattan products	baskets, mats	
Fire making implements	rattan and wood	flint
Additives	-	tobacco, salt
Clothes	tree bark	clothes
Adornment	bird feathers	brassware, beads

* **Note**: Before trading times, as reportedly obtained from abandoned burial grounds

[1] Upon the request of traders, they also tapped tree resin (*ketitei dian*) for gutta purca which, however, fetched very low prices in the past. Therefore, they only searched for it when requested by traders.

Resource Tenure

Continuing the examination of the social relations of production, this section focuses on resource tenure when the Punan Vuhang were practicing their mobile economy. It describes restrictions on utilization of food sources as conservation measures to cope with future periods of scarcity in an economy that relied on the natural occurrence of food. We have seen earlier that the practice of a mobile economy had enabled the Punan Vuhang to forage food in an area comprising 1500 square miles that had previously had no other inhabitants. The territorial vastness and natural production of resources resulted in the Punan Vuhang considering all forest resources as open access properties that everyone could freely use. However, the Punan Vuhang did have a private property rights system which recognized rights holders' exclusive rights to resources to which they had established rights. While all other resources were categorized into either open-access property or private property, the Punan Vuhang accorded both types of rights to the *Eugeissona utilis* (*tajuk*) sago. This was because different members of the community had differing perceptions of this resource—some established private rights to it—while others did not, but recognized the rights of those who did so.

Private property rights were accorded to various types of resources. These included fruit trees, blowpipe poison trees (*Antiaris toxicaria*; *takjem*), blowpipe trees (*tanyit*), *lingoh* firewood trees, and the *benator* (*shorea spp.*) and *sirau* trees used for constructing boats. They maintained open-access rights to resources that they used occasionally and were able to obtain freely due to their abundance. Nonetheless, despite honey being extremely rare, they considered it an open-access property because it was a delicacy that had to be shared equally with all individuals in the community.

Sago

The analysis of the relationship between the ecology and the economy in Chapter Two provides a basis for assessing the former property rights system for sago. Here we shall see how sago has become the most important food resource to the Punan Vuhang because it was the only food source that was available throughout the year. Sago was non-seasonal, and when all other food resources became unavailable, the community could depend entirely on sago.

Two types of sago grow in the Punan Vuhang territory. The main species is *Eugeissona*, found throughout the territory but mainly in headwater areas. According to Brosius, the *Eugeissona utilis* grows "throughout interior Central Borneo and has a wide elevational range. It is found in greatest concentration on steep ridges and slopes, where it grows in dispersed groves interspersed with other forest vegetation" (1991:142). The other sago, *Arenga undulatifolia* (*nyamakoh*), mainly grows in downriver areas.[1]

Arenga is commonly found in widespread areas. It is a solitary plant, but some of these sago clumps do have a few palms growing together. Compared with *Eugeissona*, rarely is the *Arenga* sago found growing in clusters. Spread all over the forest and in low

[1] It is found in abundance in the Balui River. There, sago is known by different names, *Arenga* is *talang* while *Eugeissona* is *nanga*. *Arenga* in the Balui grows in clumps with many palms in each cluster. *Arenga* is found in lowland areas while *Eugeissona* thrives on soils at a higher elevation (Chan 1995:105).

quantities, it was difficult in the past for the Punan Vuhang to keep in memory the locations of the clumps in their mental map. This made it hard to establish a right to it, resulting in the Punan Vuhang treating it as open access property. *Eugeissona*, on the other hand, was found in abundance throughout the river valleys. In several areas, it was so abundant that the plant dominated the landscape covering an entire river valley as in the Peluan tributary of the Linau River, and the Berla'up-Sulen watersheds in the Kajang River. The establishing by some people of *Eugeissona* as private property but with yet other individuals continuing to maintain it as an open-access property requires a deeper analysis.

Eugeissona propagates by producing fruits and generating offshoots that grow on elevated aerial roots (see Brosius 1991:143). Many sago clusters are huge and consist of many palms. Some of them are so big that one had to build a platform 10-15 feet up on a clump to cut down a trunk. Because of its abundance, the Punan Vuhang had no qualms about harvesting all edible young palms for their shoots. After all, they might not return to the same area until the seedlings left behind had regenerated, and, 10-15 years later, matured. For that reason, some Punan Vuhang did not find it a necessity to conserve a young palm because they might not get to harvest it when the palm had achieved maturity.

These factors, among others, determined the complex nature of the property right system of sago. Its abundance and regeneration attributes resulted in the perception of the resource as an open access property that the community could freely exploit. However, other Punan Vuhang considered it private property to which they had the right to exclude others from exploiting it.

Before going on further on how this contradictory situation had come about, some basic facts about sago processing will help us to assess the development of its property rights system.

(1) Sago was a resource exploited for its starch and there were palms of differing starch qualities. Only good quality palms were used, as not all sago plants contained sufficient starch to make it worthwhile to process.

(2) Sago required water for processing into starch. In its raw condition it was heavy and had to be transported to a water source. An accessible stream was therefore necessary to process it.

When an individual discovered a sago clump, the first thing that he did was to check on the palm's maturity and then the quantity of starch content. If the starch content of a palm was high, he checked on the surrounding area for a stream with constant running water. When necessary, he returned with his wife to process the sago. If the water was too far away, he abandoned the sago, unless, due to severe food scarcity, it was essential for him to harvest it.

As running water was an essential factor that determined the prospective harvesting of a sago palm, only sago that had a good water source accessible could be used. Although there might be some small streams near to sago clumps, insufficient running water during the drought season prevented the filtering process. Since most palms grew at a distance from running water, the Punan Vuhang usually had to transport the sago trunks to the stream. On flat ground and uphill slopes, they carried the sago trunks on their shoulders. This was a feat only strong young men could do. For palms that were far from streams, transporting the trunks frequently required a combination of long stretches of uphill paths and

flat paths on top of ridges. On downhill paths, however, the men had only to roll the trunks down the hill slopes.

In the worst circumstances, a man had to mash the pith and then carry the pulp over a long distance to a stream for further processing. He then returned to continue mashing the pith before transporting it again. He did not mash all the pulp at one time and then transport it in stages, as those portions that were exposed for too long would lose their starch content. The transportation required many trips that necessitated a whole day's work as a man could only carry so much fiber at any one time. Consequently, unless it was necessary, this strenuous process was avoided and only sago palms located near to a water source were used.

The two factors of differing palm quality and accessibility to a water source show that despite an abundance of sago palms, not all of them could be used for sago production. Therefore, an individual only established rights to a sago grove when the resource fulfilled these two conditions.

Establishment of Rights – Before the Punan Vuhang left a resource-depleted area for an entirely new territory, young men scouted around for sago resources. When the scouts found an area with rich sago grounds, the community then moved into the area and set up camp near the resource. Almost immediately, the men had to explore for more sago before those on the common sago grounds became depleted.

Besides focusing on hunting, a man walked up a ridge to obtain a better view of the surroundings by looking down at the valleys. When he saw a patch of sago fronds protruding from the forest canopy, he went there to check on the resource. If the sago grove contained quality palms and was near a water source, he established rights to it by cutting away the dead fronds (*masap*) from several palms. He returned when there was a need to harvest it.

When the man came back to the area to process the sago, he could choose to harvest the resource fully or conserve some of the palms. If he chose conservation, he would retain some young palms for future exploitation. He would make a mark by cutting a few notches on a trunk of an adjacent big tree and clear the surroundings of small trees to establish permanent rights over the sago clumps. Otherwise, these small plants would grow up into big trees and obscure any sign of his claim. When the palms had regenerated, the mark on the huge tree and lack of big trees around the sago clump served as evidence of a permanent claim to it. As the hunter left the site, he fixed the location of the clumps in his mental map of the territory. When the community returned to that area years later, he knew exactly where to find his resource.

As this study refers to events of the past that are no longer practiced, we will look at what the literature has reported on the amount of sago palms that Punan groups elsewhere leave behind. According to Sellato (1994:122-123):

> A quick calculation indicates that a band of twenty-five people would need fifteen or twenty of these smaller palm trees a week, or between 800 and 1,000 palms per year. If a single palm grove, like the many I have seen, may contain from fifty to a hundred trees, of which perhaps only a half have grown to usable size, then the band would have to leave it for another grove after a week or two. This important factor regulates the movements of the band. A palm grove thus harvested may be revisited a year or two later; there will always be new palms reaching maturity.

> According to Brosius (1986:117), the grove is left to regenerate over several years. *Eugeissona* is said to take no more than five or six years to reach its full growth (Johnson 1977:67), though Kedit notes that the same palm when planted takes from ten to fifteen years to mature (1982:235). Whatever the case, the bands do revisit the same palm groves after a certain lapse of time (Anderson et al. 1982:118).

This idea of conservation is also practiced by the Penan, as recorded by Jayl Langub, "Perhaps the most important aspect of Penan resource management is the practice of *molong.* The word *molong* can be roughly explained as the sustainable use of forest resources for harvest at a later time. It can also mean the fostering of resources for the future. . . . Penan harvesting strategy is based on the concept of *molong*, and on the principle of sustained yield. For example, when harvesting sago, they cut only one or two of several trunks, leaving the palm to resprout" (1996:107).

However, not all community members practiced conservation, as some cut all young palms for the delicious sago shoots for snacks or a side dish. When they cut down the palms, the remaining seedlings would take many years to mature. If the community returned to the place before these seedlings matured, there would be few palms to harvest. Since they were uncertain when they would return to an area, people found it not worthwhile to establish permanent rights to the sago.

In short, besides establishing rights to the resource for immediate use, the Punan Vuhang also established rights to young sago resources near streams for future exploitation. Also, during affluent times when there was no immediate need for this food, the discovery of a sago cluster would result in its reservation for exploitation during a future period of scarcity.

The Development of the Sago Property Rights Systems

The above description shows the Punan Vuhang considered sago both as an open-access resource and as private property. Analysis of this phenomenon requires an assessment of the influence of ecological factors on the Punan Vuhang mobile economy that also affected the property rights system.

Open Access Property — The Punan Vuhang resided in a large territory that provided them with a wide resource base for exploitation. They therefore considered sago as being so abundant that it did not need the establishment of permanent rights. When they depleted the sago in an area, they simply moved to a new area. They found little problem obtaining sago because the Kajang - Kihan - Linau watersheds were rich in this resource. Along several major tributaries, sago was so abundant that it was the dominant vegetation covering whole stretches of hill slopes. The community felt that the large area provided them with so many different sources of sago that by the time they returned to an area, exploited sago palms would have sufficiently regenerated. So the community did not feel any need to establish permanent rights over the resources. Also, they could not easily utilize a sago growth that was inaccessible to a water source for sago processing. Therefore, it was not necessary to establish rights over these sago resources.

The arrival of the fruit season with a period of food abundance was another factor that relieved the need to establish permanent rights over sago. From the synchronized calendar in Figure 1, (see page 26) starting on the fifth month, the Punan Vuhang

experienced about five months of food abundance. This period of non-dependency on sago largely relieved it from exploitation, and thus conserved it for lean times.

Private Property — The existence of private property rights over sago resources, however, requires further analysis. According to informants, despite the abundance of sago, failing to conserve young palms led to future difficulties in the search for mature palms. This was especially so during lean times when the community had to rely totally on sago, as protein-based food resources were immensely difficult to find then. As sago was the only available food resource, the Punan Vuhang had to search throughout the territory for mature palms. Frequently, they could only find a few sago grounds and they had to intensify the search. As such, they had to fall back on previously exploited sago clumps. Often they did not obtain sufficient food. When this occurred, a person had to step up his effort even more to search for new sago resources that others had not discovered. Then the Punan Vuhang had to explore distant areas to search for it.

Consequently, some thoughtful members tried to avoid the recurrence of the difficult search for sago. They resolved this by making claims over sago clumps and then limiting themselves to selective harvesting of young palms. This conservation allowed the remaining palms to regenerate in a short time, enhancing future exploitation. The availability of young palms therefore ensured a more reliable food supply without the Punan Vuhang having to wait too long for them to mature. In order to protect these conserved palms from disturbance by other people, they established rights over these sago clumps by clearing around their bases.

As this assessment contradicts the above statement that the Kajang - Kihan - Linau watersheds were very rich in sago resources, one has to look deeper into the situation. Precisely because this area was rich in resources, the Punan Vuhang often focused their camps near these three rivers. Camps in previously exploited areas within these watersheds became much more frequented than other places. Consequently, resources in many of these sago grounds had not yet gained maturity before the community returned to them, and so, some members conserved the resource and established permanent rights to the sago, because they knew that before long they would have to return to those areas again.

When the Punan Vuhang came back to an area, these rights holders usually found little difficulty in obtaining sago, as their conserved palms would have matured. On the other hand, those who did not practice conservation had to search extensively for new sago resources after having depleted the common sago grounds. Due to a lack of mature palms, whenever they found young palms, they would cut them to get shoots for immediate consumption. Without conservation, the cycle went on, and when they returned to that area again, they again faced a lack of mature palms. Despite this, they still did not want to practice conservation and establish rights to sago resources.

The reluctance of most community members to practice conservation and establish rights to sago resources can probably be seen in the light of two perspectives: (1) the social context of selfishness and, (2) the perspective of immediate and delayed returns in a hunter-gatherer society. Informants mentioned that many persons considered the selective harvesting of only the bigger palms to be a selfish act (*misep*). Retaining young palms implied that a rights holder wanted to keep these resources for himself and prevent others

from harvesting the food. These people therefore preferred confronting problems in procuring mature palms rather than being labeled as selfish.

The stigma of being considered selfish was one of the worst social sanctions that a person could face. Among the Punan Vuhang, the community expected a hunter to share whatever food he obtained with others, especially among kinsmen. Thus, for example, during the worst of times, even small game, as little as a frog or a tree shrew was shared among kinsmen. If a person hoarded food for himself while other people lacked food, he became the butt of communal gossip as a self-interested person caring only for his own needs.

The perception of selfishness, however, was only a matter of opinion. A person did not keep everything for himself but shared the sago that his family processed with all households in the camp. The provision of starch to every household therefore reduced the stigma of selfishness. Sharing was certainly welcomed. During lean times, sharing ensured the provision of food to all households. Consequently, individuals who practiced conservation disregarded the selfish stigma. Really, the effect on them was small as food contribution to all, including those who gossiped against them nullified the stigma of selfishness. Furthermore, those who lacked food really appreciated the sharing at that crucial time.[1]

The perspective of immediate and delayed return systems of hunter-gatherer societies, introduced by Woodburn (1982), provides another explanation for the development of an open access property right system for sago. According to Woodburn, hunter-gatherer societies favor economic activities with immediate return because of their opportunity to obtain resources instantaneously. On the other hand, they shun activities with delayed returns that require time to yield results.

From the perspective of an immediate return system, the Punan Vuhang fully exploited edible sago resources to fulfil their immediate need for food. To instantly alleviate hunger, they chose not to conserve for future use in order to avoid being considered selfish. Besides, during lean times, the only food that served as a side dish to complement the plain sago starch was the delicious sago shoots. Consequently, the immediate need to cope with food insufficiency combined with the social stigma of selfishness, resulted in some Punan Vuhang consciously choosing not to establish private rights to the resources.

However, the Punan Vuhang did have a notion of delayed returns to some extent, as the activity of trapping required time to snare a game. Even blowpipe hunting which enabled a hunter to obtain game “almost immediately” also required patience. One had to wait for an hour or two before the blowpipe poison took effect to kill the game completely. In the cases of the helmeted hornbill (*Rhinoplax vigil*; *terjaku*) and male pig-tailed macaque monkey (*Macaca nemestrina*; *barok*), the waiting time was even longer. The act of waiting, although only involving a substantial duration for blowpipe hunting and several days for trapping, was a form of delayed return activity. Likewise, waiting for a young sago palm to

[1] During fieldwork, I brought food and kept food like sugar and biscuits for the household. Every day I took out some rations for eating together. Frequently, however, the children requested food from me throughout the day. I seldom gave it and reasoned that I was keeping the food for hungry times. Early on during my stay, they always accused me of being stingy. However, in 1994, a flood swept away all the paddy and we had to rely on sago. Frequently, sago ran out for an entire day. While the adults went to process sago, the food rations that I had kept became the main food source, especially for breakfast. The perception about my stinginess during that time changed as some members defended my attitude of being thrifty and emphasized that the food ration was only to be eaten when they lacked food.

gain maturity, albeit a few years, was acceptable to some Punan Vuhang. Therefore, some community members were willing to practice sago conservation and established perpetual private rights over this resource.

An analysis of sago rights among the Punan Vuhang shows an evolution from open access to a private property rights system. However, some members continued to retain open access property rights to sago. The vast tropical rainforest that the Punan Vuhang lived in sustained the hunter-gatherers even during lean times when only sago was available. This caused many members to retain open-access to sago although during lean times they would have difficulty in searching for the food.

Fruit Trees

The Punan Vuhang considered fruit an important resource to supplement their staple food. During the fruit-ripening season, a variety of fruits released them from total dependence on sago, thus allowing them to conserve palms for the lean period. Community members consumed nutritious fruits as staple food while taking sour and less palatable fruits as snacks. Due to their importance as a staple food, the Punan Vuhang established private property rights over favored fruit trees for the purpose of retaining their growth after harvesting. On the other hand, they considered non-favored fruit trees as open-access property. This allowed members to harvest indiscriminately without considering the well-being of the tree, such as, lopping the main branches or even chopping down the tree to harvest the fruit.

When a Punan Vuhang discovered an unmarked mature favored fruit tree, he established rights to it by slashing a few cuts in its bark. The flowering season was the time that fruit trees were frequently discovered by virtue of their dense flowering which enabled an individual to see them easily from afar. For a tree that was located near a hunting or collecting path, the rights holder made a *batak* sign pointing to its direction. This sign informed passersby of the finding of a fruit tree. The Punan Vuhang did not limit themselves to establishing rights only for mature fruit trees. They also established rights to small trees whenever they discovered them. A person established rights to a small tree by clearing the surrounding undergrowth and cutting down small trees nearby. This prevented these plants from competing for nutrients with the growing fruit tree. Then, he notched a big tree next to the small fruit tree to create a permanent mark. Similar to the markings made on a mature fruit tree, the mark on the other tree showed the establishment of a claim to the small fruit tree.

Besides the importance of establishing rights over a resource to reserve its use, the marking of a fruit tree was a deliberate creation of a landmark in a particular area. The feature helped the rights holder to recall precisely the location of each fruit tree within an area. In a wide territory of different river systems, it was almost impossible to recall the locations of fruit trees unless rights were deliberately established over them.

The recognition of private rights to a fruit tree was not so rigid that it required a person to obtain permission from a rights holder before taking fruit if the owner were camping too far away. During lean periods, the Punan Vuhang usually divided themselves into two bands or more to exploit a larger pool of resources. During a minor fruit season, most places did not contain enough fruit to sustain the entire community and so community members had

to remain divided into two bands. As such, a rights holder might be camped far from the fruit tree while the other band was camped near it. Therefore, there was no necessity for a person to obtain permission from the rights holder to harvest the fruit.

Fruit Harvesting – The type of fruit determined the type of harvesting. There were three main ways of harvesting: climbing to pluck fruit on the tree, chopping the branches or tree to take the fruit while still standing on the ground and, picking up fruit that dropped to the ground. If the tree were easy to climb and the fruit ripened in stages, they climbed the tree to pluck the fruit. For favored fruit that ripened on the tree all at once, the Punan Vuhang lopped off the secondary branches. Rambutan (*Nephelium lappaceum* L.; *beliti*), *Xerospermum sp.*, *Pometia pinnata* Forst. (*isau*) and *Nephelium mutabile Bl.*, *Nephelium uncinatum Radlk* (*avong*), for example, fell into this category. For the unfavored types, they lopped off the major branches or chopped down the trees (for types found in abundance) during the early stages of the fruit season. Then they plucked the fruit from the branches lying on the ground. As the fruit ripening season progressed, they waited for all the fruits on a tree to ripen before they chopped the branches or felled the tree.

When a person harvested fruit that required lopping branches or chopping down the tree, he invited others to participate in the harvesting. If the fruit yield was more than enough for his household, he requested his siblings' households to join in the harvest. If abundant, he would invite the whole community to participate. Although the private rights to a fruit tree were exclusive, it was inconceivable that only his household should eat the fruit by themselves. On the other hand, if the quantity of fruit was not sufficient to invite others to participate, he distributed some fruits to all households, or invited the community to eat the fruit in his shelter.

A rights holder checked to estimate the fruit's ripening time when they reached the mature stage. The fruit that dropped when ripe was collected every day. Other fruit that ripened on the tree simultaneously and required branch lopping or tree felling was checked for the exact condition of the fruit. This was to determine the date for the communal harvesting.

On the appointed day of communal harvesting, every member participated in the fruit collecting. After the men lopped off the branches or the rights holder chopped down his tree, everybody participated in plucking the fruit from the branches. They plucked the fruit from the upper parts of the branches, and all fruit that might be reached without lifting up the branches. While each person ate some fruit, the community gathered the fruit into one pile for distribution. The distribution was on an individual basis, that is, giving an equal amount of fruit to every single individual, or giving the same amount to each household. Households with more members were allocated a little more than the others. After the first stage of plucking, the rights holder owned all the remaining fruit on the lower part of the branches. Fruit dropping to the ground due to the impact of the branches falling on the ground became open-access property that anyone could collect.

Fruit such as durians (*Durio zibethinus* Murr.; *luyan*, *Durio kutejensis*; *tabalak*) and mangoes (*Mangifera pajang* Kost.; *pangin*), that dropped upon ripening were gathered from the ground. These fruits that dropped usually ripened in stages and only a few fruits dropped in a day. Consequently the amount of fruit that dropped for the day was only enough for the

rights holder's household and not enough for sharing. There were cases of men becoming too impatient even to wait for their valuable durian fruit. They chopped down the trees to harvest all the fruit, including the unripe ones.[1]

As with most other food resources, the Punan Vuhang shared the much relished durian fruit with the rest of the community. In the early ripening season, an individual would bring back the fruit, and share a few fruits with related households. If his collection was abundant, he opened the fruits and distributed the flesh to every household. As the ripening progressed, the rights holder invited all households to take turns gathering the durian fruit, a system that only applied to this particular fruit.

The valuable durian fruit (*Durio zibethinus* Murr.; *luyan*) involved a complex but orderly sharing system. The sharing entailed a rotation system that gave all households an equal opportunity to collect the fruit. According to this rotation system, the right holder began the rotation by collecting the fruit on the first day. After that, he divided the day into four parts, and allocated each quarter of the day to one household to collect the fruit. The first watch was from about midnight until sunrise. Then, the second household collected the fruit until afternoon. The third household took their turn until sunset, while the fourth and last group completed the day's rotation by collecting their share until midnight.

The households that collected the fruits during the night phase camped together at a shelter built by the tree owner. Although they stayed together, each household kept its share of the fruit. On the following day, another group of four households formed the second day's rotation to collect the fruit. This went on until all households had had their share of fruit collecting. Meanwhile the rights holder did not get anything unless some generous households gave him some fruit, as the households involved in this sharing were not obligated to share the fruit. However, if the durian fruit yield for a particular session was more than enough, the household concerned would give some fruit to the rights holder. With the completion of the first cycle, the rights holder then resumed his turn to collect the fruit for a day. Following that, the rotation system began another cycle of fruit sharing. The rotation went on until the fruit yield was no longer significant for further sharing.

The rotation system differed slightly for a durian tree that grew at a distance from the camp. Then, the duration of a group's collection time was extended to 12 hours for each session. The first session was from sunrise until sunset, and the second from sunset till sunrise. However, instead of only one household per session, two households shared the rotation, making the number of households remain at four per day.

The sharing system was not obligatory and there was no sanction against those who did not invite other people to participate in the fruit collecting. Although members felt that those selfish people should be retaliated against by not inviting them, they did not do so, for such an action would imply their own stinginess. Therefore, when a member invited the whole community to participate in the sharing system, he included even those who had been

[1] This occurred even after the Punan Vuhang had become sedentary, with the last incident occurring sometime in the 1980s when the community no longer accepted this harvesting method. Other members chided the rights holder for felling the durian tree and reasoned that he and his children would never gain fruit from that tree again. Since then, no one has ever chopped down a valuable fruit tree again.

stingy. Being invited to participate, the selfish people would feel embarrassed and this ensured that in the following fruit season, they would not keep the fruits for themselves.

Another aspect of durian fruit sharing was the time factor. The community only practiced this system during the early period of the fruit-ripening season. As only a few fruit trees had ripened, all the people were keen on consuming the fruits and thus the necessity of sharing with those whose trees had yet to ripen. As the ripening season progressed, the system was no longer necessary as most households had their own fruit. However, those households who owned exceedingly good quality fruit continued to invite other households to participate in the fruit collecting.

Blowpipe Poison, *Takjem*

The *Antiaris toxicaria* blowpipe poison tree (*takjem*) was one of the most important resources to the hunter-gatherer people, without which it would have been almost impossible to kill game by blowpipe hunting. In this method, it was a combination of skill and quality of equipment that enabled a hunter to shoot the game. However, it was the *Antiaris* poison that actually killed the game. As such, the Punan Vuhang considered *Antiaris* an important resource and private property.

The Punan Vuhang used two varieties of poison tree: the *takjem pingitan* and the *takjem sarik*. They were both quite rare. The poison came from the latex of the tree bark. The tapped parts of the tree did not produce any more latex for future tapping, thus making the *Antiaris* tree a non-renewable resource. As the tapping continued, the rights holder cut the bark higher and higher up the tree. Although the bark would never grow back and thus renew the resource, the rights holder would remove only a few strips of bark at a time, thereby making his resource last for a while. When the untapped portion became too high for tapping, he felled the tree to use the entire tree trunk.

The *Antiaris* tree was one of the main resources that the community did not share, although they did share processed poison which involved a complex distribution system. Even so, a rights holder only gave the poison to a sibling who had requested it. On the other hand, a sibling would only make a request for it if its potency were stronger than poison in his possession.

Antiaris was a poison that had varying levels of efficacy, depending on the tree from which it came. The efficacy of the poison even varied from different places on the same tree. While most *Antiaris* trees produced poison of considerable potency, some trees produced especially effective poison. Therefore, a tree that produced highly potent poison was extremely valuable to the Punan Vuhang and a finder did not make his discovery known to anyone. He did not even tell his siblings for he feared that they might steal it. Because very strong *Antiaris* was rare, the Punan Vuhang only used it to shoot game that ordinary *Antiaris* could not kill. Such game included the male pig-tailed macaque (*Macaca nemestrina*: *barok*), bear cat (*Artictis binturong; ketan*), clouded leopard (*Neofelis nebulosa*; *kuli*) and helmeted hornbill (*Rhinoplax vigil*; *terjaku*). A little mixture of this potent *takjem* increased the effectiveness of ordinary *Antiaris* and required less time to kill game.

A person only knew the effectiveness of his *Antiaris* poison upon trying it in hunting. If it were good, it required a shorter time to kill game. If it appeared to be effective, he tried it on game that only a potent poison could kill to confirm its efficacy.

Although a hunter kept the information to himself of having found a good *Antiaris* tree, over time, his siblings might come to know of it when he was more successful than usual in killing game. When this happened, a sibling realized the potency of the new poison and then requested a little of it. When this sibling also achieved a higher success rate in blowpipe hunting, other siblings would also become aware of it and request some too. Eventually, the community would realize that a new effective *Antiaris* tree had been found. Nonetheless, because *Antiaris* poison was extremely rare, only kinsmen who felt that their own *Antiaris* poison was less potent would request it. The Punan Vuhang only gave away *Antiaris* upon request.

The *Antiaris* sharing system was different from sharing systems for other types of resources. As mentioned, a person only gave the poison upon request, unlike other resources that one was obligated to share without being asked. Nonetheless, the level of giving depended on the quantity of the latex that the rights holder had tapped from the tree. If the amount was small, the rights holder did not give it away. He only gave some to his siblings when his tapping produced one *lakaruh* container of latex (about 400 ml.). When he obtained two to three *lakaruh*, he could share it with a cousin, and a second cousin if their relationship was close.

When a sibling requested a little poison, the rights holder cut the piece of processed poison longitudinally into two equal portions. He did not cut straight across the piece of poison, as one end of it might be more potent than the other. For non-siblings, he cut a piece of poison that was equivalent to a fingertip. When this amount was ground into a powdery form, it measured up to one teaspoon.

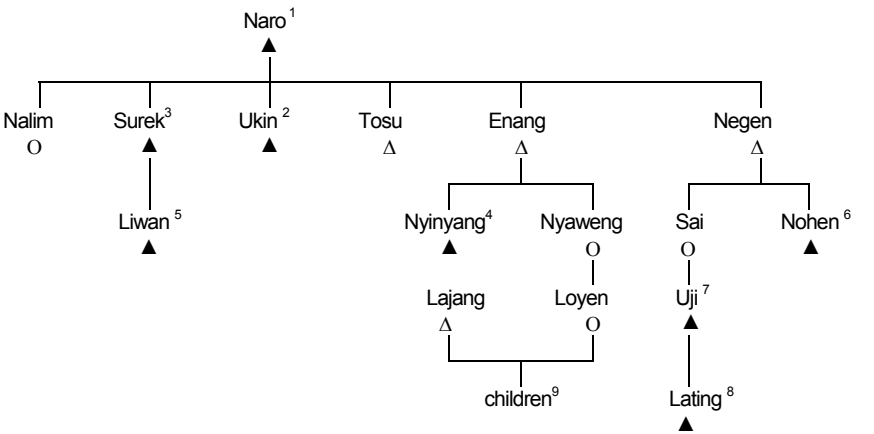
The sharing of good quality *Antiaris* with the entire community was done only under exceptional circumstances, such as for defense. Even then, a rights holder only shared the poison when it was of exceedingly high quality that was renowned among the community. However, to qualify for communal sharing, the tapping of the *Antiaris* tree should have produced more than three bottles of latex as it was then sufficient for a small portion to be distributed to all households.

An event of *Antiaris* communal sharing occurred at the turn of the century when the Punan Vuhang were in Kalimantan. At that particular time, the Punan Vuhang were avoiding marauding Iban and had sought safety by the Kayan River. While at the Brem-Brem rapids area, two brothers discovered an extremely effective *Antiaris* tree (see Footnote 1 page 64). The poison was so strong that it could instantly kill an animal, hence, the poison's name, *Takjem Tipluk* ('poison that cuts the throat'). After the community stayed there for some time, the Punan Vuhang returned to Sarawak. Knowing that after leaving the area they would not return to Kalimantan again, the rights holders decided to share the poison with the community for defense. Consequently, they invited every household to participate in the tapping with each one acquiring equally a little of the highly effective latex.

Another form of *Antiaris* that was regarded as an extremely effective poison was called *takjem uhu*. That poison was acquired about a hundred years ago and has been passed through several hands since then. The *Antiaris* tree was discovered by Naro, the great-grandfather of the present Naro whose name derived from this forefather's name. From Figure 15 below, Naro (1) acquired the poison when the Punan Vuhang were in Long Kayan in Kalimantan. He passed it to one of his sons, Ukin (2). Although Naro had many

sons, he gave the poison to Ukin, because Ukin was a keen hunter compared to his other brothers and hence able to kill game more frequently. However, Ukin was childless and he passed the poison to his elder brother Surek (3). When Surek became old, instead of giving the poison to one of his own children, he passed it to his adopted son Nyinyang, son of his deceased brother Enang. Surek gave the poison to Nyinyang (4) because Nyinyang was the eldest child under his care. Then, Nyinyang passed the poison to Liwan (5). Liwan was the son of Surek (3), Nyinyang's adopted father and uncle.

Figure 15: Individuals Inheriting the *Takjem Uhu*



According to informants, Nyinyang gave it to Liwan for two reasons. First, Nyinyang had himself acquired a new *Antiaris* from his visit to the Kihan in Kalimantan, a poison that was equally effective as the *takjem uhu* that he had inherited from his uncle. Thus, he had in his possession another extremely effective poison. The other reason was that Nyinyang himself was childless while his foster brother and cousin Liwan had children to feed. Liwan therefore required an effective poison to hunt game to sustain his household. After that, Liwan passed the poison to Nohen (6), the eldest son of his youngest brother Negen. Liwan did not pass the poison to his own children because he wanted all the households of his siblings to have an opportunity to use it. Nohen, being childless, then passed it to his eldest nephew Uji (7), son of his eldest sister Sai. Uji is currently holding the right to use the poison. Of all these persons named, only Nyinyang and the middle aged Uji were still alive during my fieldwork.

Because of this effectiveness and the inheritance through so many hands, the poison was called *takjem uhu*, to differentiate it from other types of *takjem*. It was most likely that Uji would pass it to his son Lating (8). An informant reckoned that Lating (a young boy now) would possibly pass it to the children (9) of his mother's brother Lajang. Lajang married a daughter of Nyaweng, the sister of Nyinyang (4). Hence the sharing would eventually rotate among the descendants of the forefather Naro.

Firewood

The Punan Vuhang considered good trees for producing firewood as an important resource to provide fuel for cooking. Although the forest was full of trees, they only used a few species of hardwood trees for firewood. Good firewood had two attributes. Its hardness produced a hot strong flame and a long-lasting burn. However, despite its being hard, it was easy to split (*bahah*) so that a person could split a big log into kindling two inches thick to yield a big flame. Despite the multitude of trees in the forest, very few trees fall into both of these categories. Most types of wood have only one of the two attributes. Some were hard but difficult to split (*nyapalut*), while others were easy to split but were soft, thus producing a low heat fire that did not last long. The *lingoh*, *gahing* and *mu'jun* types of trees fall within the category of good firewood and the Punan Vuhang constantly searched for them. Other woods of lesser quality that were used by the community included *jeliri*', *kayu bua'*, *kelo'ai*, *lirap*, *lubunyun*, *lukukun*, *nyohut*, *orak*, *patik* and *sarit*. Of all these woods, the *lingoh* was the best and the Punan Vuhang established private rights only to this wood.

The *lingoh* tree, growing up to one and a half feet in diameter, was hard but extremely easy to split. It burned very well, produced a fire of great heat which lasted much longer than most other types of wood. During cooking, only about three or four pieces of kindling were required to cook a meal, with slightly more if much meat was being cooked. When a man discovered this tree near the camp, he established rights by felling it and notched (*ngalong*) the trunk into portions (*tolo*). The length of each *tolo* portion corresponded to the length of an axe handle (about two feet) and the *ngalong* marks indicated establishment of rights over the trunk. The unmarked part of the trunk and the branches became open access property. When the man was free from other work, he returned to the tree and chopped up the trunk following the marked portions and then transported them back to the camp where his spouse or father-in-law then split the trunk into kindling.

While the felled *lingoh* tree remained in the forest, if a person passed by and needed wood urgently, he was allowed to take a portion of the marked trunk without prior permission. When he returned to the camp, he informed the rights holder that he had taken the wood. He apologized for doing so without permission and said that he was too weak to fell a good tree. This act of humility would cause the rights holder to give him the right to use the portion.

Conclusion

This discussion of resource tenure has shown the complexity of the Punan Vuhang former property rights system in regulating the use of valuable resources. Because of its abundance, sago was considered by many as an open access property that could be freely collected by any individual. However, others did not perceive it in such a way. Instead, they established private rights to the resource, which restricted others from harvesting it, thus ensuring food availability during lean times. They considered it necessary to establish rights for some other resources so that they could use them on a sustained basis. Such sustainable use of resources enabled the Punan Vuhang to tide over periods of food scarcity, giving them the ability to survive in the rainforest without dependence on cultivated food. Combining this regulation of resource tenure, the Punan Vuhang's practice of sharing and reciprocity enabled the whole community to survive though lean times. When individual

hunters failed to obtain anything, they still did not have to worry about going hungry, for they had socially organized themselves in such a way that successful hunters and gatherers shared their food with every household. With generalized sharing, every household reciprocated by receiving and giving a portion of food.

These social strategies to cope with lack of food mean that the Punan Vuhang had no need to rely on farming societies for food. This idea of non-reliance is further underlined when we see how barter trading and related activities were rare and seasonal as traders had to make long and difficult journeys to Punan Vuhang country. Efforts to make goods to trade were only done while traders were present in their midst. Even then, the Punan Vuhang's needs were easily satisfied, affirming Sahlins' "Original Affluence" theory that hunter-gatherers have few needs to fulfill. It was the traders who were strongly motivated to obtain Punan Vuhang products, particularly woven mats that were extremely monotonous and tedious to produce. To cement trading relationships with the otherwise uninterested Punan Vuhang, traders introduced a highly addictive form of tobacco which caused a craving for the substance, thus binding the former hunter-gatherers into barter trading.

Chapter Five: Leadership, Consensus and Autonomy

Introduction

In the preceding chapters, we have seen how the Punan Vuhang developed various strategies to acquire food and various other necessities of life. We have also shown how their social system was based on sharing and reciprocity that ensured a reliable food supply even during periods of food scarcity. The next two chapters concern social organization and reconstruct the way in which the Punan Vuhang organized their relations to one another and to the inhabitants of the supernatural realm during the period in which they lived as hunter-gatherers. This chapter more specifically describes the Punan Vuhang political system, emphasizing, in particular, their egalitarianism.

The Punan Vuhang political system was egalitarian, with individual members free to do largely as they liked. Nonetheless, individuals were bound by decisions obtained through consensus that affected the well-being of the whole community. The Punan Vuhang had leaders but these leaders lacked the authority to compel others to do things. A person became a leader because his actions caused others to respect and follow him.

In this chapter we will see how the personal characteristics of an individual may have caused him to be recognized by others as a leader and how he would gain authority by attracting others to him as his followers. In doing this, we will compare the Punan Vuhang to the stratified Kayan, for we shall see how the Punan Vuhang borrowed from the latter a notion of aristocracy and yet at the same time preserved their basic egalitarianism. While information on Punan Vuhang leadership is based on what I was told by informants, the interpretation of these data is my own.

The *Kejian* and the *Kotokek* as Community Leaders

According to Naro, the present headman, there were three categories of Punan Vuhang leaders: the *gum tokong*—who led a band; the *kejian*—a very good person who had yet to attain the status of an elder but who commanded the people's respect; and, the *kotokek*—the old wise leader who, due to his age, was elevated above the *kejian*. The *gum tokong*, or 'leader of a band,' was not a political leader. Instead, he was the eldest individual of the kin group that formed the core of a separate band during lean times. As a nomadic community, the Punan Vuhang formerly broke into smaller groups during such times in order to spread out and exploit a larger resource base. Because of the non-political nature of the *gum tokong's* role, I shall not say more about this position. When all the bands converged to live together as a single group during the season of abundance, the *kotokek* or the *kejian* became the leaders of the entire community.

The *kotokek* did not have any authority to personally make decisions that affected the community. His main role was to initiate communal meetings (*putuhok*) to discuss matters that affected the community. The role is best thought of as a coordinator who organizes an activity on behalf of a group. In meetings, he led the discussions which were meant to obtain a general agreement acceptable to every member. In carrying out a decision, the *kotokek* was the person who initiated the work involved by becoming the first person to do whatever had been agreed upon, giving directions to others only when necessary.

During contact with traders who had come to trade with the community, the *kotokek* acted as the community host and took responsibility for the welfare of the guests. He organized young men to assist the visitors in obtaining food. The leader himself gave food to the guests whenever he obtained some. As the main contact person in the community, he was the intermediary between the visitors and the Punan Vuhang, and important requests to the community were made through him. During meetings with government officials that took place far downriver, the *kotokek* was the community's main representative.

When the *kotokek* became old and began to feel too tired to carry out this work, he delegated leadership to a younger man with leadership potential. This man took over any activities that involved going far into the forest, or meeting with government staff far downriver. Over time, the man was elevated to the status of *kejian* when he began to assume leadership within the community. Eventually, the *kotokek* became too old and the *kejian* would take his place. When the *kejian* himself attained old age, or when he became a grandfather, he was elevated to *kotokek* status.

Here, I believe something must be said about how it was possible that a leader would gain authority in a community whose members generally considered themselves as more or less equal to one another. For this, we must start by considering the characteristics that caused a person to be seen as a *kejian* and ultimately a *kotokek*. In addition to what Naro said, other informants also said that a person who had *kejian* potential showed great 'concern' (*mahik*) for other members of the community regardless of their gender, age, or relationship. He cared for the old, children, women and the infirm. He was 'kind-hearted' (*polongan*) and generous with his belongings, giving to those in need. He was 'diligent' in his work (*bahik*; *nyegehok*) and was thus able to obtain more food (*tapui*) for sharing with others (*putulat putom dok linau*). He was 'knowledgeable,' (*ketikgob*) but humble. The *kejian* was 'courteous' and 'soft-spoken' (*jian adet*), and 'patient' (*ovow longan*). He was affable and people felt comfortable being with him. He liked to joke and make people feel happy (*tavat nyat sanik*).

From Naro's observation of previous headmen, while anyone in the community might possess these attributes, what made a *kejian* stand out from other good people were his leadership abilities. He was able to identify a matter of concern and initiate a meeting (*putuhok*) to discuss the issues affecting the community. He was attentive, listened to everyone's ideas, and possessed an ability to analyze other people's arguments. He reasoned well and communicated effectively. He could speak convincingly and yet was soft-spoken, thus making it easy for others to agree with him.

From my own observation of community meetings, despite his proficiency as a speaker, a *kejian* did not always voice his opinion. When discussions readily led to a general consensus, he merely led the community in deciding on a course of action that was acceptable to the majority. The *kejian* only needed to voice an opinion when disagreement arose. He analyzed the ideas, gave weight to the ideas that he found reasonable and then let the community determine the choice of action. However, when he felt that he had to say something, he would reason and clarify his thoughts. His argument was usually rational, well-prepared and gently delivered. When he voiced his opinion, community elders generally supported him, bringing up decisions previously made that were thought to be wise judgments. In short, communal discussions were a forum in which the leadership qualities of

a *kejian* stood out from others. This corresponds to Sellato's (1994:151) description on Punan leadership:

> Since he has no formal power, his influence depends on his experience, his wisdom, his ability to make good decisions—though, for that matter, it appears that decisions may be made only after a general discussion in which everyone has a voice (see Jayl Langub 1972:220). . . . The leader must be hardworking, an eloquent speaker, experienced, and fully familiar with the groups's history and traditions.

When a *kejian* was challenged, he had two alternatives. The first was to accept his opponents' ideas and help to carry them out. This act of humility commanded their respect and gained favor and support in the long run. On the other hand, he would persist with his own opinions if he thought that the ideas of those who challenged him were detrimental to the community. The latter might not agree and so abstain from participating in the action chosen. Eventually, however, once this action was underway, they might come around and join the others.

Naro noted that during the discussions that resulted in the adoption of rice cultivation in 1968, Negen, then the *kotokek*, opposed abandoning the traditional economy. However, the majority, especially the young people, were adamant and Negen gave in to their demands. However, the community later experienced a series of disasters, including many deaths. The people attributed the cause of these difficulties to having abandoned their old way of life and then began to have serious doubts about settling down. Negen reminded them of his earlier objections. Nonetheless, instead of demanding that they revert to the old ways, he advised the community to persevere with cultivation as they were already on the verge of change. He stressed that he had anticipated trouble because taking up a new way of life was certain to require adjustments. This was especially so as they knew very little about the new procedures they were adopting. However, he was confident that once they gained the necessary knowledge of cultivation they would succeed. Because of the people's confidence in Negen, they persisted and eventually became successful cultivators (see also page 222).

A leader also counseled community members who were involved in severe conflicts with others that resulted in fights. However, the immediate responsibility for averting more serious conflict lay with the close kinsmen of the contending parties. A leader would not interfere directly with the fighting, as the opponents, if he did, might challenge his leadership. After several days when emotions had cooled, he would invite one of the opponents into the forest to collect sago shoots. There the leader would point out the adverse consequences of the fight on the latter's reputation. As the advice would be given without other people knowing about it, instead of feeling embarrassed, the man was likely to realize his mistake. By making him conscious of his foolishness, the leader gained respect and improved the behavior of his followers. Similarly, the leader would approach the other opponent too, and counsel him without the others overhearing.[1]

The leadership of a *kejian* was also vital in the past to the survival and well-being of the community. As nomadic people dependent on forest resources, the Punan Vuhang had

[1] See Jayl Langub (2004:206-9) on the role of Penan headmen in the resolution of conflicts.

to move from one river system to another as food resources were depleted. During lean times, the *kejian* led his followers to areas where he knew food could be found (*gum linau lak angkun*). By contrast, other community members might keep knowledge of these resources to themselves. While leading the search for food, a *kejian* was expected to be hardworking and take initiative and his determination encouraged others to work equally hard. Being motivated, people liked to join him as their efforts were likely to be rewarded. Also, the *kejian* was generous and assisted weaker members of the group with their work and shared his yield with them.

In terms of territorial knowledge, or knowledge of the location of food resources, the *kejian* usually knew more than other members of his age group. This was because he had been attentive to old people who reminisced about the resource grounds they had exploited in the past. Also, being a diligent person, he had assisted these elders since his youth and therefore knew about different river systems. Due to this knowledge, the *kejian* was generally able to lead his followers to areas where food was likely to be available. Consequently, when the need arose to search for game or sago palms in distant areas, they turned to the *kejian* to lead the way.

The *kejian* was also sensitive to the needs of the community and was among the first to be aware of the depletion of resources. His awareness was due to his diligence and concern for other peoples' needs. As a hardworking person, he usually explored further afield and therefore became aware of food shortages looming ahead earlier than most others in his group. Other members might think that there was still a wide area to explore and therefore might be less attentive to the deteriorating conditions. Also, as a generous person whom others asked for food, his sense of the situation would be further confirmed by the frequency of requests he received. Besides, being their leader, others would inform him of the increasing difficulty they were facing. When this happened, he notified his followers of the need for a meeting and invited them to gather at his shelter.

The wife of a *kejian* also helped to determine whether he remained a kejian or was rejected by his people. If his wife was as generous as he was, others would continue to seek his assistance. If she were selfish and berated her husband for giving away food and other things, people would feel sorry for him and avoid asking him for help unless absolutely necessary. Should this happen, that would have been the end of his authority as a *kejian*. This kind of downward mobility rarely happened, however, because a good person, people believed, would only marry someone equally generous. A woman in this case, had to accept the generous nature of her husband before she married him.

Kinsmen also played an important role. Ideally, the members of a leader's kin group should also possess good character. They should also be hardworking, diligent and generous. Because of these characteristics, members of the kin group would not only be self-sufficient as a rule, but often would have a surplus of food that they were able to share with one another. As such, the *kejian* would have little problem taking care of his relatives and could therefore pay attention to the needs of others in the community.

Legitimization of Authority

While the leadership attributes of a person might help elevate him to become a *kejian*, it is vital to note how a *kejian* gained legitimization of his authority from other

community members. Although his political skills might enable him to gain the consensus of community members, there was no guarantee that they would act upon a decision and the *kejian* had virtually no way to compel them to tow the line.

I believe that it was the inherent personal qualities of the *kejian* that gave legitimacy to his authority. Since his youth, the *kejian* had been helpful to other people. In return, the community gave him the status of *kejian* and allowed him to lead the community. It is important in this regard to understand that reciprocity among the Punan Vuhang was a vitally important institution that made community cooperation possible.

There were two forms of reciprocity, generalized reciprocity and individualized reciprocity. Generalized reciprocity, which was discussed in detail in the previous chapter, involved sharing of food among all members or households in the community. In contrast, the other form of reciprocity, individual reciprocity, involved a close personal relationship between one person and another. A person tended to give because of his generosity and the close relationship that existed between him and the other person. He might offer something to another person in need even though the item was the only one of that thing that he owned. After that, he would put in extra effort to acquire the object again. The item could be anything, for example, a lighter, or in the past, flint and steel to make fire, a small knife or blowpipe poison. He might also temporarily lend his larger tools, such as a bushknife, axe, or a spear, when he had no immediate need of them. The person who had received the special help would reciprocate whenever the giver was in need.

It was in this context of individual reciprocity that a *kejian* gained a special relationship with many households and individuals, who in turn gave him the authority to lead them. Due to his generosity, the *kejian* would give extra portions of food to a household in need, and he would make an extra effort to acquire such food above the needs of his own family. He worked harder than was necessary, in order to obtain extra rattan to give to weak members of the community who could not get it themselves. He might carry water and firewood for them and helped the weak to build their shelters. Because of his generosity and kindness, people in need did not feel embarrassed requesting help from him. If he really did not have an item, he would say that he did not have it, or had given it to somebody else. The person would believe him and not feel that the *kejian* was being stingy. When a household head was sick and unable to work, the *kejian* would assist by providing for his household's needs, such as helping household members process sago and hunting for them.

By making this extra effort to help people in need, the *kejian* established a close relationship with his followers. Over the years, people tended to forget the exact assistance that the *kejian* had provided, but they tended to remember that they had been helped, and so, when necessary, they would support the *kejian* in meetings or join him in carrying out actions that had been determined by consensus during a meeting. When the *kejian* made a personal request, his appeal would be fulfilled. It was this individualized reciprocity that gave legitimacy to the *kejian*'s leadership. People generally felt obliged to support him. However, when they recalled how the *kejian* had helped them in times of need and the *kejian* himself was in a difficult situation, they would no longer feel that their support was obligatory, but would gladly reciprocate. In addition, the *kejian* received support from elderly influential persons whom he had frequently helped. When the *kejian* was challenged by others in

communal meetings, they would rally to his support. With this moral and influential backing, the *kejian*'s status would be further enhanced.

From my observation of the relationships between young people on the one hand, and the headman and Chief Deacon on the other, I saw that a *kejian* could also gain legitimacy with teenagers and young men by having been kind to them when they were still young.[1] When a young *kejian* was just starting his household, he would frequently invite small children to eat with his family when they were playing near his shelter and he had extra food. At meal times, when he called his own children to return to eat, he might also invite others to eat with them. During the course of eating, he would develop a close relationship with the children. If there remained extra food, he would give some to the children to take back to their younger siblings. After the children had gone back, the *kejian* would cook another pot of sago paste for his household members as the first dish would be barely enough to satisfy them.

When the young *kejian* returned from hunting, the small children liked to gather around him. They generally stayed on for dinner to savor a little food unless their parents called them back. Through this close interaction and his generosity, the children would develop a fondness and a close relationship with the young *kejian*. This relationship would develop and continue into the children's adulthood, and these former children would become a core group of persons who supported him, thus further enhancing his standing. Whenever the *kejian* asked them to do something, they would gladly fulfill his request. These requests did not require consultation or the consensus of the community. This ability to mobilize the actions of the young men—a core group who did the most difficult and strenuous work—was another way in which the *kejian* enhanced his leadership.

Prominent Punan Vuhang Leaders

Very few Punan Vuhang leaders attained the status of *kejian* or *kotokek*. Although most men were capable of the economic aspects of leading people to locations where food resources were present—*gum linau lak angkun*, or leading a band—*gum tokong*, they did not possess the necessary political skills to make them *kejian*. Moreover, even some who did possess the skills failed to become prominent and were no longer remembered by informants.

My main informant, Nyinyang Enang (himself considered a *kotokek*), mentioned the names of thirteen leaders, all descended from Nyuvuhan, the earliest leader whose name is still remembered. However, in another account, he could remember only seven of them – Nyuvuhan, Rahman, Tigang, Le'an, Jeli, Surek, and Negen.[2] Other informants, besides mentioning Nyuvuhan, only talked about Le'an, Surek and Negen.

This, to me, suggests that not every leader successfully attained the status of *kejian* or *kotokek* in the past. It also confirms the view that men in hunter-gatherer societies

[1] This position of Chief Deacon is a new one, due to their conversion to Christianity.

[2] Nyinyang Enang, my main informant on past leaders, is a leader himself. Other informants could not provide this kind of detailed information.

are only recognized as leaders if they possess important character traits that benefit those who follow them.

As I understand the stories of famous Punan Vuhang leaders, a knowledge of good leadership was passed on through their children and grandchildren. To maintain their good name, parents encouraged their children to display the characteristics that would make them useful members of the community. They encouraged them to develop survival skills, practice good behavior so that they were socially acceptable, and be generous with their possessions. Relatives also helped to socialize the children by inviting them for meals and then advising them on the need to maintain the good name of the household. In this way, the children of a *kejian* and his siblings were taught the behavior required of potential leaders of the community. The examples set by their elders further enhanced the socialization process. Thus, the *kejian*'s children saw the acts of generosity and kindness performed by their parents, grandparents, uncles and aunts, and so would acquire similar attributes, and through emulation, grow up to become important community members and possible future leaders.

As the children of a *kejian* grew up, they acquired political skills by observing how their father handled community affairs in their shelter. Unlike other children, who remained in their own shelters during meetings, their presence provided them with an opportunity to observe and develop political skills. They learned how to differentiate a good speech from a bad one and to master the criteria necessary for making a convincing one. When they accompanied their father, they would learn how a leader had to be the first to initiate community activities. Besides following their father's work, they might also assist others and so learn the essentials necessary for success. They would learn that a leader had to be diligent and able to motivate other people so that they would work equally hard. On the other hand, they observed that if a leader was unable to motivate them, other people would not be inspired.

Through these socialization processes, the children of a *kejian* would become acquainted with the attributes necessary to become a leader. As they grew up, the eldest son or the most able among the sons would be chosen to represent his father in various activities. Eventually he was likely to become the *kejian* when his father reached old age. By comparison, the children of other households had less opportunity to acquire the attributes of leadership. They lacked leaders in their ancestry and therefore did not feel the need to maintain the latter's good name. As long as they practiced generalized reciprocity and helped their kinsmen, they did not need to be extra generous. Besides, they would not have gained any benefit from being a *kejian*. Unlike Kayan leaders who received corvée assistance from other members of the community, Punan Vuhang leaders did not receive any kind of aid from their followers. Instead, they themselves had to provide assistance to others to maintain their *kejian* status. This notion of a leader not gaining any advantage is consistent with the literature on hunter-gatherers in Borneo. Referring to Nicolaisen (1976:214) and Jayl Langub (1972: 219, 204), Sellato stated of the leader: "There is nothing sacred about his role, and it entails no particular privileges. . . . The leader has little formal authority, his power being based only on his personal qualities" (1994:151).

This description suggests that only children of a household with past leaders had the opportunity, motivation and interest to become a *kejian*. Although they did not gain much,

they cherished the notion of being chosen to carry on the family legacy of leadership. The only benefit of becoming a leader was the respect and recognition of the community. If a man became a very good leader, he achieved renown and was memorialized in the history of his people. For that reason, only descendants of Nyuvuhan—the first recognized Punan Vuhang leader, gained recognition as leaders of the community.[1]

Origin of Punan Vuhang Leadership

All renowned leaders of *kejian* and *kotokek* status are believed to be descended from a common ancestor, Nyuvuhan, who was the first *kotokek* of the Punan Vuhang. Nyuvuhan emerged at a time of spirit disturbance when many shamans were misusing their powers. I was told, in the past when the Punan were banded in different and opposing groups, wicked shamans ordered their patron-spirits to attack their opponents. I have recorded a story of spirit warfare in Chapter Two, where Nyuvuhan, who was also a powerful shaman, was able to nullify the effects of harmful shamans who had attacked his people.

It is possible that Nyuvuhan was inherently of good character and so drew powerful spirits to assist him. His good character might also have caused him to be recognized as the community leader. To ensure that his children grew up to be upright people, Nyuvuhan must have educated them well, for, it is told all four of his sons, Majat, Rahman, Lawan and Imang, became leaders (see Figure 16, page 166). Nonetheless, it was his second son Rahman who succeeded him as the principal leader of the community.

My informant Nyinyang Enang was not clear about the names of those who succeeded Rahman as leaders. It was after Sabung, however, that the line of leadership became clear. Sabung was succeeded by his son Nyilung whose son Joyah then became leader. Then, Joyah's son Tigang assumed the position and, following Tigang, Tigang's son Le'an.

It was during the era of Le'an that Hugh Brooke Low (Sarawak Gazette 1884) came to the Balui headwaters.[2] Le'an was also famous because he led the Punan Vuhang on a journey around the regions surrounding the mountain range between the Balui and the Kajang-Linau Rivers. They entered Kalimantan and traveled down the Lesong tributary, moved up the Iwan and then the tributary of the Kihan before reentering Sarawak. While some groups remained in the Kihan and the Kajang areas, Le'an returned with his group to the Balui headwaters. It was there at Kahei, that fourteen Punan Vuhang fell prey to Iban headhunters in 1916 (see page 60). Upon the death of Le'an, his son Jeli took over leadership. After Jeli, Jeli's brother Banai assumed leadership.

It was during the leadership of Banai that his son, Sangom, led the Punan Vuhang to take revenge against the Iban.[3] Despite having led the Punan Vuhang in this one incident of

[1] The close relationship between their ancestor Nyuvuhan with the mythical leader of the dominant Kayan, Lake' Dian Lulo Kasut, has also given them a sense of pride in their lineage.

[2] In Low's account, there was no mention of a person called Le'an. It is possible that the news of Low's visit circulated among the people and later reached the Punan Vuhang when Le'an was the leader. Considering the distance to reach the Punan Vuhang in the headwaters, it might have been a long time later that the news reached them. If it is correct that Le'an was the leader during that time, then Le'an must have been a very old man when he died at the hands of the Iban in 1916.

[3] Sangom led a group of men to take revenge on the Iban and killed four of them. After this, the community went into Kalimantan to avoid Iban retaliation.

revenge, my informant mentioned that Sangom was not known to be capable in leading the community, and so when his father died, the leadership moved to another line of Nyuvuhan's descendants, beginning with Surek.

The new group's line of descent from Nyuvuhan was, however, unclear. From this group, Surek became the first leader and led the community during the Second World War period. When Surek died, no renowned leader led the community until his youngest brother Negen became leader.

During the period between Surek and Negen, a minor leader who was not a descendant of Nyuvuhan, by the name of Bakup, was appointed Penghulu of the Punan people by the Brooke Government as he had attended the peacemaking ceremony with the Iban prior to the 1924 Peacemaking Ceremony in Kapit.[1] Although Bakup held a high position, he lacked leadership characteristics and never attained *kotokek* status, even after the death of Surek. When Negen later became the *kotokek*, Negen was more influential and held more authority than Bakup. While Bakup only led his band, Negen led the entire community.

Before the 1963-66 Indonesian-Malaysian Confrontation, Nyinyang Enang (my informant, as noted earlier) became the *kejian* while Negen remained the *kotokek*. After Negen's death in the 1970s, Nyinyang assumed leadership and later became *kotokek* (Nyinyang is mentioned as the leader of the Punan Vuhang in Ellis's report (Ellis 1972; 1975). As Nyinyang entered old age, he continued to hold the *kotokek* position until his death in late 2002. In the late 1980s, his nephew Naro applied for Nyinyang to be named a government-appointed headman which drew a salary of RM1000 a year. In 1996, Nyinyang relinquished the headman position to Naro, his sister's son.

From this description, succession occurred over five generations (Sabung to Banai), and then, for the last four leaders, from brother to brother (Surek to Negen), and then from uncles to nephews (Negen to Nyinyang to Naro), all of them claiming to be descendants of Nyuvuhan.[2] All of these leaders and their kin also claimed to be of aristocratic (*maren*) status. This claim probably makes sense in so far as leadership has come from a single line of descent.[3] However, other Punan Vuhang do not accept this notion of aristocracy and claim that all members of the community are equal.

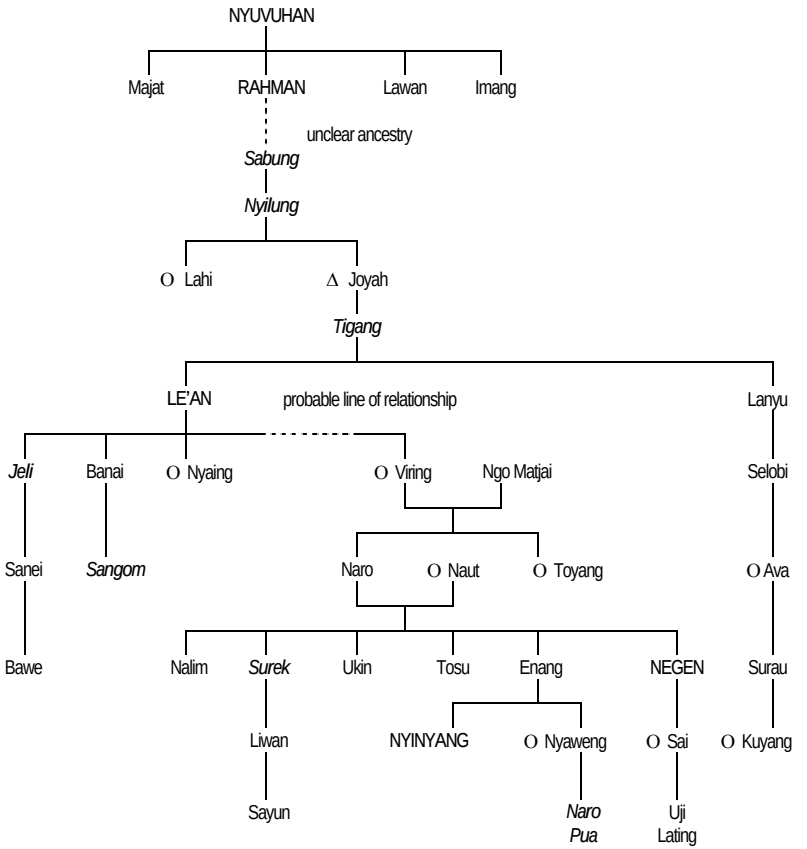
---

[1] After the Punan Vuhang returned to Sarawak from fleeing into Kalimantan, Bakup and a few members went downriver to obtain tobacco from some Kayan. It was on this occasion that the Kayan brought them to meet the Brooke officials. In this meeting, Bakup was appointed the government's representative with the rank of *penghulu*. His duty was to guard the vast territory in which the Punan Vuhang lived and report to the government any intrusion by the aggressive Iban (see page 65).

[2] This, of course, may be fictional. We have no confirmation from other independent sources that such persons existed and were related to each other in the way described. I take it, however, that the account is believed to be true.

[3] Leadership among the Western Penan of Sarawak is also established through genealogical link to an apical ancestor. In the case of Long Luar, the headman could trace his ancestry up to seven generation (see Jayl Langub 2004:194-7).

Figure 16: Lineage of Leadership



Note: Names highlighted in **bold capital** were prominent leaders mentioned in the oral history. Those highlighted in ***italic*** were common leaders.

The rejection of aristocracy was probably justified as the Punan Vuhang did not have a stratification system such as that found among the Kayan, the dominant society in the Balui headwaters. There were no lower status aristocrats (*hipuy*), commoners (*panyin*), or slaves (*dipen*), nor were there sanctions against rejecting aristocratic dominance. Punan Vuhang leaders had no authority to compel other persons to do anything against their will. Naturally, other members of the community ignored the *maren* status claimed by those families that produced all the leaders, as the latter had no coercive power. In contrast, Kayan *maren* wielded great power over their communities. The rest of the Punan Vuhang community were not familiar with this oral lineage of leaders going back ten to twelve generations. However, they did not openly challenge those who claimed to be *maren*, but rather voiced their non-recognition among themselves. This rejection of aristocratic status of Nyuvuhan's descendants differentiated the Punan Vuhang from the Kayan. It is useful therefore to compare the role of leadership in these two communities to understand the differences.

I will first briefly describe the Kayan system to provide the basis for comparison. According to Kayan belief, stratification originated from their ancestral god who had four sons:

> When all his children had grown up, [the god] could not decide what roles the four sons should be given. To be fair to all the sons, he organised a contest among them to choose the suitable role for each person. It so happened that the eldest son won the contest, the second son obtained second placing, the third son, third and the youngest became the last. Since the eldest son was the strongest, and the youngest son the weakest, it was decided that the eldest brother should help the weak brother in all kinds of work. The second son, being the second strongest, should occasionally help the weakest brother in activities that required a lot of manpower, for example, in the various stages of paddy cultivation. The third son being weak himself, was not required to help the weakest brother in any work. All these different roles were to be inherited by their descendants. . . . The descendants of the youngest son became the *marens* [ruling aristocrats], the second weakest son became the *hipuys* [lower level aristocrats], the third son became the *panyins* [commoners], and, the strongest son became the *dipens* [slaves] (Chan 1991:63-65).

The economic assistance given to the *maren* allowed them to concentrate fully on political affairs. Their domination of political affairs enabled them, in turn, to build up a power base from which they could not be challenged. Over time, this accumulation of power was further strengthened by a belief system which provided legitimacy to the differentiation of roles between strata. After all, it was the ancestral god who had made assisting the *maren* mandatory. Moreover, certain rituals and ceremonies involving the whole community could only be performed by the *maren*. For example:

> The chief also is responsible for the proper observation of the omens for the regulation of *malan* (tabu) affecting the whole longhouse; and, ... takes the leading part in social ceremonies and in most religious rites collectively performed by the village (Hose and McDougall 1912.i.65)

In comparison, the Punan Vuhang had no such basis for differentiating roles. Every individual performed similar activities, except for rituals and ceremonies that were conducted by the shamans, some of whom were also community leaders. Without a leader, hunter-

gatherers could still survive because a knowledge of the environment and food acquisition skills were the determining factors for survival and this knowledge was shared by all within the community. A person of superior abilities benefited the community and his counsel was generally followed. Otherwise, the person had no say over the affairs of others.

Unlike the Kayan who depended on the *maren* to carry out rituals that benefited the whole community, Punan Vuhang leaders played no such ritual role. The shaman functioned to maintain the well-being of individuals in the *nalau* healing rituals and that of the community by cultivating the help of benevolent spirits in the *nyangen* rituals. A shaman might also lead the community, as was the case of various leaders in the past who were also shamans, but one became a leader by virtue of leadership attributes, not because of one's position as a shaman. In the past, there were many shamans who were not leaders, and also leaders who were not shamans. Furthermore, there were no spiritual consequences suffered by those who did not respect their leaders. In contrast, the Kayan believed those who went against the headman would suffer *tulah*, 'punishment by spirits.'

The role of Lake' Dian Lulu Kasut, the ancestor of the Balui Kayan aristocrats, was also different from that of Nyuvuhan, the ancestral leader of the Punan Vuhang. Lake' Dian's origin was recounted in legends, with differing versions. However, in all of them, Lake' Dian emerged from inside a durian fruit, which was considered the king of fruits. According to one version, Lake' La'e, the Kayan paramount chief in the Apau Kayan, was one day hunting with his dogs.[1] Along a straight stretch of river (*lulu*), he came across a huge durian fruit. He brought the fruit back and when he opened it, he found a baby inside. Lake' La'e adopted the baby and since it was found inside a durian fruit, he named the child Dian, from the Kayan word *dian* meaning 'durian.' As the durian fruit was found on a hunting path beside a straight river, the baby's full name was Dian Lulu Kasut—*Lulu* for the straight river and *Kasut* from the word *ngasuk*—to hunt with dogs.

When Lake' Dian grew up, he succeeded his father as paramount chief of the Kayan. As a person of unusual origin, he was believed to possess supernatural powers that gave him the political superiority to unify the Kayans. Because of his influence and status, his children inherited his position. The Kayan in the Apau Kayan region, under the leadership of Lake' Dian's son and daughter, Baweng and Ipui, then migrated to the Balui in Sarawak. During the rule of Bit Meng who was a great-grandson of Lake' Dian, the paramount chief of the Mahakam Kayan came to challenge Bit Meng for supremacy. All the Kayan groups and other tribal groups in the Balui rallied to defend Bit Meng and defeated the challenger.[2]

---

[1] The following description of Lake' Dian is taken from Chan (1991:2-6), an account in my Master's dissertation on the Kayan.

[2] According to the Balui Kayan, the Mahakam Kayan later migrated to the Baleh River on the Sarawak side. When Iban headhunters began to move into the Baleh, the Kayan found it difficult to defend themselves as the Iban conducted warfare in secret, attacking farmers in the fields and hunters in the forests. To avoid more deaths, they moved back to the Mahakam. In my 2002 fieldwork in the Mahakam, I found the Bahau-Busang living at the upper part of the river speak a somewhat similar language to the Balui Kayan but have different vocabularies for some words. Old people told me that the Kayan in which I conversed with them is the original language as theirs has been a mixture of words from other groups. On their origin, they do not have any story of having migrated into Sarawak and then returning. Their ancestral ground is on the western side of the Apau Kayan, the homeland of the Balui Kayan. Also in the upper Mahakam, there is a group who are called Kayan but speak a different language.

This victory further enhanced the status of Lake' Dian's descendants as the undisputed paramount chiefs of the Balui Kayan. As a result, all the sons of Bit Meng who married into other longhouses assumed leadership in their spouses' longhouses. Today, most headmen and aristocratic families, including not only the Kayan, but also the Kajang groups, are all interrelated as descendants of Lake' Dian Lulu Kasut.

This account of the origin of Lake' Dian shows that the Balui Kayan believed him to be a leader sent by the gods to preserve their unity and supremacy. He was sent not to any single Kayan longhouse but to Uma Daro, whose headman was the paramount chief of all the Apau Kayan (Chan 1991:3). As Apau Kayan is the ancestral homeland of all Kayan, this means he was sent to lead all Kayan groups, including those in distant areas. When his supremacy was challenged by the Mahakam Kayan, people rallied to defeat the contender. Today Kayan aristocrats, as the descendants of Lake' Dian, are held in great esteem and rule the longhouses in which they live with authority.

In comparison, Nyuvuhan, unlike Lake' Dian, was not sent by the gods. He was an ordinary human being who possessed a good character. He lived in a time of tumult when shamans of different Punan groups waged intra-tribal warfare with their patron-spirits. Due to his good character, powerful spirits offered their patronage and thus provided Nyuvuhan with immense power which he used to bring peace to his people. He ensured that his children internalized good attributes and when they reached adulthood, they all became recognized leaders. Among these sons, Rahman succeeded the aging Nyuvuhan. After Rahman's death, it is not clear who among the grandchildren and descendants of Nyuvuhan led the community. The leadership line is remembered only from Sabung onward.[1] The line, however, terminated with the death of Banai, the seventh leader after Sabung. After that, leadership went to another line of Nyuvuhan's descendants, whose precise ancestry to the founding leader they could not ascertain.

In contrast, Kayan leaders and other aristocrats are able to recite their ancestry directly to Lake' Dian, thus affirming their aristocratic status. Even the older members of lower level aristocrats (*hipuy*) claim descent from Lake' Dian in order to validate their status. For Punan Vuhang leaders, although they emphasize their descent from Nyuvuhan, they cannot actually trace their ancestry, and so cannot affirm their claims to the rest of the Punan Vuhang community which does not recognize them. The prohibition to mention the names of the dead, except during child naming (*mek aran bikop*) when the name of a dead ancestor was given to a newborn baby (see page 254) made it impossible to recite their ancestry. Unlike Kayan leaders who are generally wealthier than others, Punan Vuhang leaders have neither brasswares (*tawak*, *gong*) nor necklaces and belts of valuable beads (*inu*, *lukut*), and indeed, instead of compulsory corvée labor provided by commoners to farm their rice fields, and former slaves to relieve them of household tasks, Punan Vuhang leaders serve others by providing for their needs.

[1] In fact, Sabung became renowned not for his leadership but because of events surrounding his death. Sabung and his brother fled from enemies and hid in a cave. The enemies discovered this and lit a fire at the entrance of the cave to produce smoke. The smoke forced them to come out and then they were killed.

Leadership among Punan Vuhang is similar to that described for other hunter-gatherers, being egalitarian or anti-authoritarian. Thus, a leader gains the voluntary following of other community members by showing exemplary behavior. He is a leader because his performance is in some important aspect of social affairs superior to other members who therefore choose to follow him (Lee 1979:343, 1982:47; Riches 1995:683; Sellato 1994:151, Woodburn 1982:445).

Egalitarianism: Punan Vuhang Pursuit of Individual Autonomy

We have now considered the issue of leadership and examined the question of why the Punan Vuhang have little regard for political authority unless a leader possesses the personal attributes that cause other people to respect him. This section attempts to assess why the community values equality. Several theories that attempt to account for the pursuit by hunter-gatherers of individual autonomy are examined by Gardner (1991), and are used here to examine why the Punan Vuhang are an egalitarian people.

The adaptive-child-training theory asserts that hunter-gatherers "tend to press for self-reliance, independence, and individual achievement" (Gardner 1991:543). This theory explains that Punan Vuhang men tended to be independent because they were trained to accomplish many activities by themselves. In blowpipe hunting, each individual owned a blowpipe that he used to hunt by himself. In trapping, a man set traps alone in an area where no one else could trap. Similarly, a hunter led a team of dogs to hunt in a particular area. This solitary hunting maximized the community's labor force. Also, as the exploration area of each hunter was distant from other hunters' grounds, it ensured the fullest territorial expanse of environmental exploitation by the community.

The need to socialize a person to become highly independent was particularly vital during times of food scarcity. At such times, a hunter had to go to distant hunting grounds to hunt for game. While exploring for resources, he knew how to identify and locate game and various other food sources. As he pursued his quarry into unfamiliar places, he developed a mental territorial map that enabled him to keep track of his location.

In the past, the Punan Vuhang maintained their nomadic economy by means of a pattern of socialization that ensured each boy grew up into a highly independent person with the skills needed for survival. This is not confined to the Punan Vuhang, for Puri makes the same observation of the Penan Benalui, "When a young man understood how to survive and could successfully spend days hunting in the forest by himself, he was considered an adult and ready to start a family" (2005:238). The adaptive-child-training theory therefore focuses on child-rearing practices that tended to produce this skilled, independent type of person. This independent self-reliance was the basis for the Punan Vuhang's egalitarian form of social organization.

The nomadic-food-quest theory propounded by Lee and DeVore (1968:11-12) also seems to apply to the Punan Vuhang. This theory views

> foragers' egalitarian, flexible, individualized social life as being shaped by their nomadic food quest, dispersed and variable food resources, avoidance of food storage, and visiting between resource areas. Nomadic procurement of food, for instance, restricts the amount of personal property possible and minimizes interpersonal differences (Gardner 1991:543).

As a nomadic people, the Punan Vuhang were also in the past constantly on the move from one place to another. When the resources in an entire river system had been depleted, they moved far away into another river system to begin a new cycle of resource exploitation. Over long distances, they carried only the most necessary items that would be difficult to produce in the new area. These items were mainly tools, such as knives, adzes, blowpipes, spears and sago filtering baskets. They also carried cooking utensils such as cooking pots and processed bamboo water containers. Their ornamental items such as clothes and earrings, were light and easy to carry. The heaviest things they had to transport were old infirm members of the group.

The difficulty in transporting items prevents accumulation of property. With the non-acquisition of valuable materials, it was impossible for a person to enhance his status through material gain. Although the Punan Vuhang avoided most forms of food storage, the Punan Vuhang did in the past store some amount of food in the form of pig lard, as discussed earlier on page 30.

The foraging-mode-of-production theory presented by Leacock and Lee (1982:7-9) has several core features that are found among the Punan Vuhang. The community practices "the collective ownership of the means of production" (Leacock and Lee 1982:8) in that for the most part, they considered the major staple food resource, wild sago, a form of open-access property. Nonetheless, some community members did establish private claims to certain sago groves. Most other resources either fell into an open-access or private property rights system, as is discussed in the chapter on resource tenure. However, despite establishing some private rights to resources, the Punan Vuhang were unable to accumulate. The obligation to distribute and share sago starch and other food surpluses ensured that no one could accumulate surplus food.

The Punan Vuhang also practiced the "right of reciprocal access to resources of others through marriage ties, visiting and co-production" (Leacock and Lee 1982:8). When a man married, he automatically became a member of his wife's kin group. He thus had rights to use the resources of the group, and vice-versa. Also, the households in a primary sharing network included those of the siblings of both the man and his wife. Visiting members from another band either participated with their hosts or gathered food by themselves.[1] It was preferable for visiting Punan Vuhang to obtain food themselves so that the resource exploitation for both host and guest would increase.

The Punan Vuhang practiced little food accumulation except for processed pork lard. During the wild boar migration season, when wild boars were plentiful and very fat, hunters processed the game into lard. They preserved the lard by burying it in the banks of small rivers or streams. Although there was a temporary abundance of wild boar that could have been processed into lard, in reality, the amount of lard that a household processed was limited. Processing lard required boiling chunks of fat in a cooking pot until the fat melted into oil. As the number of pots that a household owned was small, usually only one or at the most two, the amount of fat that they could process was limited, amounting at most to about ten

[1] During the minor fruit season, occasionally one band came across an area with fruit while the other did not. The visitors then joined the band with fruit and lived with them for a period until both bands had depleted the fruits.

liters per day. Consequently, a household could process, at most, about three hundred liters of lard per season. This, if sparingly consumed when there was no meat, could last for more than a year.

The only other time when the Punan Vuhang amassed food was when preparing sago starch for a long journey. When the community had to migrate to a distant river system, which required a journey of several days, they needed to prepare sago for consumption along the way. They dried the moist starch over a slow fire to remove moisture and so lighten the starch's weight. Drying also prevented the flour from spoiling. However, when the Punan Vuhang reached their destination, they ceased to accumulate processed sago. They asserted that preserved sago flour was less tasty than fresh starch and therefore had no desire to preserve it. Each time that they processed sago, the amount was just sufficient for a few days' food supply. After that they processed it again.

Like other hunter-gatherers, the Punan Vuhang practiced generalized reciprocity. A hunter shared food with all households although he gave larger shares to the households of his wife's and his own siblings. As a result, he did not have an opportunity to accumulate. The more food he obtained, the more he had to distribute. For example, if a man processed a larger amount of sago, up to a full basket (*kalong*), about 3 cubic feet, he distributed the starch in round balls about six inches in diameter. When he obtained less, he was obligated to give balls of only about two and a half inches in diameter. A ball of starch about the size of half a man's fist, when cooked into a watery paste (*linut*), was sufficient for a single meal for a four-member family. After distribution, what remained for his own household's consumption lasted between one and five days; beyond which time, the moist starch spoiled.

Like many other hunter-gatherers, for the Punan Vuhang, there was an

> Access of all to the 'forces of production'. Virtually everyone possesses the skills for making essential tools (Leacock and Lee 1982:9).

From an early age, individuals acquired skills by watching and imitating the work of skilled adults. As they grew older, they assisted skilled persons and eventually acquired the ability themselves. For refined work, they asked elders to finish the work for them. As they observed and emulated, they became experts themselves.

The notion of "individual ownership of tools" also held for the Punan Vuhang. Just as Leacock and Lee write, individuals readily borrowed and lent their tools, although borrowing and lending were rather rare since each person knew how to produce tools for himself. A person only borrowed when his tool was damaged, and he would obtain the use of the tool first from a kinsman. He only borrowed from a person who had no use for the tool on that particular day. He returned it when the lender needed it back. On the following day, he then borrowed from another person. Soon he repaired or made a new tool and had no further need to borrow.

The fourth theory examined by Gardner is the resource-depletion theory propounded by Foley (1988). Since this theory derives from archaeology and applies to Late Pleistocene hunter-gatherers, I shall not dwell on it here.

The storage theory of Cashdan (1980) suggesting that storage buffers against environmental variability applies only to a limited extent to the Punan Vuhang. The

community only stored lard from processed pig fat during the relatively brief wild boar migration season.[1] Testart (1982) has argued that food storage inhibits residential mobility. He stresses that sedentism allows important people to assume management of food stores, thus making storage possible (Gardner 1991:544). This theory that storage hindered residential mobility does not hold for the Punan Vuhang. The storage of pork lard did not inhibit their movement; having stored the food, they moved on and returned to obtain it only when the need arose, and no one was left in permanent charge of it. The other part of the theory on management and exploitation of food storage is also not found among the Punan Vuhang. As their agrarian neighbors, after adopting rice cultivation, Punan Vuhang households store rice individually and therefore the storage system offers no chance for exploitation by other people. Similarly, the storage of lard was also individual.

The collective-hunting theory by Steward (1936, 1955), which asserts that "unrelated families come together in a 'composite' group, resulting in bilateral descent and the possibility of band endogamy" (Gardner 1991:544), only partially holds for the Punan Vuhang. The theory partially fits the Punan Vuhang situation because during seasons of abundance, different bands came together as a single group. Each band was comprised of different kin groups with minor leaders. These bands deferred to a leader having authority over the entire group only when there was a prominent *kejian* or *kotokek* leader present among them. As such, "unrelated" families did live together as a composite group but only for short periods of time during seasons of abundance.

In terms of Steward's theory, although different kin groups did stay together, it is hard to see how this factor leads to the practice of bilateral descent. In the case of the Punan Vuhang, I think that the practice of uxorilocal residence was the main determinant of bilateral kinship. Among the Punan Vuhang, a person may marry anyone who is descended from the same great-grandfather, although this is not encouraged. Marriage among distant cousins is necessary because the bilateral kinship system covers a large network of related persons that practically includes almost every individual in a band. The practice of marriage between individuals of different households but of common ancestry, therefore, allows for the possibility of band endogamy.

The next theory that Gardner reviews is Turnball's avoidance-of-social-disruption theory.

> Turnball (1968) offers a partially ecological explanation of the "flux . . . expressed as recurrent fission and fusion which . . . may be characteristic of the majority of [hunters and gatherers]" (p.132). He argues that (day-by-day or seasonal) reconstitution of cooperating groups can serve as a systematic means for averting social disruption in band societies whose environment offers choices of subsistence techniques (Gardner 1991:544). [Emphasis original].

This theory requires a detailed reconstruction of membership in all bands within a defined period to test its validity. From the information that I gathered, it seems that the

[1] Having adopted cultivation, the community now stores rice. Because they have only become adjusted to the new economic system since 1968, it is yet to be seen how storage might cause the Punan Vuhang to become more stratified. As of my main fieldwork period, in 1993-95, the Punan Vuhang were still egalitarian.

composition of bands was quite consistent over time. Kin grouping was the basis of band composition and the Punan Vuhang usually divided themselves into two groups that were further divided into bands during lean times. One group lived in the headwater region and the other in the middle parts of the Kajang and the Linau River areas. The Punan Vuhang situation does not seem to correspond with Turnball's theory in that the Punan Vuhang did not reconstitute their bands with different households each time that they reorganized themselves.

The marketing theory by Kroeber (1928, 1945), Jenness (1932), Steward (1936), Leacock (1954), Bose (1956), Fox (1969) and others "sees foragers as becoming simple culturally, exploiting resources familially or individually, and perhaps also becoming nomadic or bilateral as a direct or indirect result of involvement with external markets" (Gardner 1991:544). A form of this theory has been debated among anthropologists working in Borneo. Hoffman (1984), has proposed this view to account for the presence of hunter-gatherers in Borneo, but it has been disputed by Brosius (1988; 1991), Kaskija (1988), Sellato (1988) and others. This argument is discussed earlier in the chapters on history and trade.

The depopulation-displacement theory of Deetz (1968), Hickerson (1960) and Service (1962) suggests "that spatial and social reorganization result from depopulation or displacement in contact settings" (Gardner 1991:545). The Punan Vuhang are an amalgam of three different Punan groups that joined together as a result of contact with powerful tribal groups that had entered their traditional territories. Threatened by their enemies, the Punan Nuo and Punan Terkalet offered their women in marriage to Punan Vuhang men in order to be accepted into the Punan Vuhang community. This gift of women was to seek Punan Vuhang protection from the Kayan, who were bound by past ties not to attack the Punan Vuhang. This fusion of the Punan Nuo and Punan Terkalet with the Punan Vuhang seems to support the theory that contacts with outsiders resulted in spatial and social reorganization among hunter-gatherers. Further, the recognition of Nyuvuhan's descendants as leaders appears to have been associated with this fusion (see page 164).

An assessment of the Punan Vuhang's historical contact with powerful outsiders appears at odds with the subordination-dependence theory proposed by Gillin (1942), James (1961) and Gardner himself (1966). This theory argues for an "association between chronic intercultural pressure (the long-term presence of more powerful neighbors) and ... individualism" (Gardner 1991:546). Although the Punan Vuhang were surrounded by more powerful neighbors, the Kayans downriver and the Kenyahs across the headwaters, they were not subordinated to them.

They were separated from these people by physical barriers such as long stretches of rapids and mountains. Before the advent of outboard motors and the modern era of logging that has opened up the interior, to get into the region inhabited by the Punan Vuhang required a journey of between one to three weeks or even longer. The travelers had to use boats in the past to paddle and pole against strong river currents and had to abandon their boats and walk overland when they came to stretches of rapids. When they reached the next parts of the river that allowed boating, they had to make new boats. The entire journey required several stages. The Punan Vuhang were therefore too far away to be subordinated by powerful outsiders. Only traders with close relationships with the Punan Vuhang were

interested in visiting them for barter trade. Physical isolation thus allowed the Punan Vuhang to escape chronic intercultural pressure from powerful neighbors. Because of this, this theory is not relevant to the case of the Punan Vuhang when they were nomadic.

Finally, the domination-escape theory argues

> that large power differences between foragers and their neighbors can shape foragers' social life . . . . when foraging people remain mobile in order to escape domination by their neighbors, their residential instability affects their social structure (Gardner 1991:546).

The theory seems plausible when applied to the Punan Vuhang. The Punan Nuo and Punan Terkalet left their ancestral homeland to avoid being attacked or dominated by their enemies. Members of former hunter-gatherer groups, such as the Baketan, Lisum and Punan Batu, were largely absorbed or assimilated into the expanding Iban population. After the merging of these Punan groups in the Balui headwaters, all left the Balui to avoid domination by the expanding Kayan.

A reconstruction of this period—before the migration of the Kayan and the invasion of the Iban into the Balui—shows that the Punan were already nomadic. The Punan Vuhang ancestors exploited all of the region formed by the headwaters of the Balui River, as was described earlier. According to their oral history, they moved from place to place in exploiting forest resources, thus practicing a nomadic economy. At that time, they are believed to have experienced extended periods of great scarcity of protein-based food. Punan Vuhang stories make no mention of their ancestors having practiced cultivation. Only one *suket* story mentions two mythical spirit figures who cultivated, however, they did so not in a conventional sense, but their farms produced a crop instantaneously. Many of their stories are about animals, suggesting a way of life based on hunting and gathering. Consequently, an examination of Punan Vuhang myths and history does not seem to support a view that they moved about as a result of contact with dominant people.

Conclusion

In conclusion, the Punan Vuhang appear to have long been an egalitarian people, but one with some notion of aristocratic leadership. In this chapter, I have described the personal characteristics that people expected of a leader. Leaders, however, did not have authority to compel people to do anything. A person gained no advantage by being a leader. The only gain was in social recognition and the pride derived from the good name of his ancestors who were community leaders in the past, and then for his name to be retained in the community's collective memory when a descendant is named after him. Relating this to the hunting and gathering economy, we can understand how the characteristics expected of a leader were ones that contributed to the survival of the group. The community recognized as leaders only persons who contributed to the welfare of others. After all, every individual, at least most of the time, was capable of meeting the basic needs of his or her own household. If a leader was incapable of offering benefits beyond that of others, his influence was simply not acknowledged. Punan Vuhang's notions of leadership therefore enhanced their community survival.

In the absence of leadership, individual households relied on themselves for survival, for socialization ensured that every individual acquired basic survival skills. When food was extremely scarce, households making up a band would go separate ways to find their own food. This solitary foraging was possible because of the egalitarian notion common among hunter-gatherers that enabled persons to make their own decisions without concern for others. This notion of individualism corresponds to two theories concerning hunter-gatherers' way of life that enabled them to survive on their own. The first is Gardner's adaptive-child-training theory that asserts hunter-gatherers tend toward self-reliance, independence and individual achievement (Gardner 1991). In the second, the idea of self-sufficiency can be explained by the nomadic-food-quest theory propounded by Lee and DeVore (1968) that views foragers' egalitarian, flexible, individualized social life as being shaped by their nomadic food quest for dispersed and variable food resources. During the long periods of food scarcity, such skills were keys to both their individual and collective survival in the rainforest. This chapter on notions of leadership and egalitarianism provides the last argument to substantiate the premise that Punan Vuhang could survive on their own without dependence on other societies for food. In the next chapter, we shall see from a different perspective through an account of cosmology and belief, that there was no need to rely on other societies for their social well-being.

Chapter Six: Cosmology, Rituals and Religious Beliefs

Introduction

Today the Punan Vuhang profess Christianity, as we shall see in Chapter Seven. Their conversion was one of several interrelated events connected with their settling down. The present chapter describes the former Punan Vuhang cosmos, including relationships between humans and both bad and good spirits. Various components of their former beliefs, in particular, that of avoiding death sites, meshed nicely with an economic system based on mobility. Punan Vuhang cosmological beliefs contained four main elements that were related to their socio-economic activities. First, they believed that the realm inhabited by human beings encompassed several spirit realms inhabited by both benevolent and malevolent spirits. Second, aided by shamans, people were able to cultivate close relationships with the benevolent spirits by celebrating *nyangen* rituals. These spirits, in turn, assisted them in nullifying the threat of malevolent spirits to which they were exposed in *nalau* rituals. Third, belief in the harmful effects of the malevolent souls of the dead caused the community to flee from sites of death where these souls were said to linger. Fourth, their augural system influenced their socio-economic life in that the appearances of auguries regulated many of their daily activities.

As the community no longer fully embraces these beliefs, my account is based solely on information provided by informants. Nyinyang Enang, the only former shaman still alive during my fieldwork, was my primary informant. Nyinyang's narration was difficult to follow and I have relied on Naro Pua and Uji Lating to clarify and order the information. As I arrange the material, I need to highlight an issue mentioned by Endicott (1979:29-30):

> But I think it is fair to say that everything I have recorded is present in the Batek cultural tradition, even though it probably does not correspond exactly to what is known by any particular individual. Another difference between Batek knowledge and my description is in the order I have imposed on the material. I have arranged the exposition in a way that I hope will be easily comprehended by the reader. But this does not actually violate Batek conceptions because there is no 'correct' order for describing the Batek world-view.

I also take note of Shanti Thambiah's concern "not to create an impression of coherence in a situation filled with uncertainty and contradictions." (1995:157).

Cosmology

The Punan Vuhang believed that the cosmos consisted of five main realms, with the human realm at its center. Above the human realm was the heavenly realm, or sky, termed *lau*. Below the human realm was the realm beneath the land. On the same level with the human realm were the upriver and downriver realms. The realms of the heavens and those beneath the land were beyond the reach of ordinary human beings. The upriver and the downriver realms, on the other hand, had no clearly demarcated boundary and overlapped with the human realm. Consequently, ordinary human beings could interact with the spirit beings residing there. In contrast, only shamans could communicate with spirits residing in the realms above and below the earth.

The following depiction of the Punan Vuhang cosmos will provide a background for understanding their belief system. The characteristics of different realms relate to the beings that reside in them and also to the interactions with beings of other realms. I use the term "realm" to describe the five domains that different categories of spirits inhabited. The Punan Vuhang themselves did not talk of "realms" but accorded specific names for the distinctive domains inhabited by different spirits.

The Heavenly Realm

Table 8 shows that the heavenly realm consisted of five distinct regions: *Kak lolau* ('beyond the sky') was the highest. The second highest was the *likun avun* and the level below that was the *nuan sok lau* ('a place in the sky'). All these regions were beyond the reach of ordinary human beings. Only the soul of the shaman could visit these places and went regularly to the *likun avun* to perform *nyangen* rituals with participating *otu tulik* spirits.

Kak Lolau—The *kak lolau*, or region 'beyond the sky' formed the highest part of the heavens. Its sole inhabitants were the *lorong* spirits. The only other spirits that were able to travel there were the *otu tulik*, spirits who inhabited the *likun avun* region. Besides residing in a region beyond the reach of other spirits (with the exception of the *otu tulik*), the *lorong* were also invisible to all other spirits. Their unattainable environs and invisibility made the *lorong* the most powerful spirits in the Punan Vuhang cosmos. Because of their power, the *otu tulik* spirits sought the *lorong* for protection and requested that individual *lorong* become their protector-spirits. In order to commit a *lorong* to provide protection, the *otu tulik* made pacts with them in which they became protector-spirits. After forming a pact with an *otu tulik* spirit, the *lorong* protector-spirit then became visible to its *otu tulik* protégé. Other than this, the Punan Vuhang did not know much about *kak lolau* as it was considered a mysterious place too high even for the soul of a shaman to reach.

Likun Avun—The next region below *kak lolau* was the *likun avun*, the best- known realm in the Punan Vuhang cosmology. It was the realm that the *otu tulik* inhabited, where they performed *nyangen* rituals comprising musical and singing activities and competitive games (*puyat*) renowned throughout the cosmos. Because of *nyangen*, *likun avun* was a place frequently visited by spirits of other realms, including the souls of shamans who helped *otu tulik* perform the *nyangen* rituals.

According to Nyinyang, the only surviving former shaman whose soul is acknowledged to have gone to *likun avun*, the most striking feature of the region was its brightness (*talabangat* / *talajantan*). Everything was sparkling and bright. The other unusual feature was that the houses could fly. Using a helicopter as an analogy, a house could fly and land wherever its inhabitants, the *otu tulik*, liked. Despite the brightness of *likun avun*, the houses were even brighter, like fireflies shining in the darkness of the night. Some of these houses became the site for performances of *nyangen* rituals. As *otu tulik* in the *likun avun* performed various activities, *otu tulik* from other regions or realms came to participate or to watch as spectators.

Features of *likun avun* were quite similar to that of the human world. Its rivers were big with pebbles shining like sparkling beads. The water level always stayed the same and

the current flowed gently. Trees were of a similar height, with leaves like stars sparkling on clear moonless nights.

Table 8: The Spirit Realms and their Spirits

	English Translation	**Inhabitants**
The Heavenly Realm		
kak lolau	beyond the sky	*lorong*
likun avun	No equivalent translation	*otu tulik*
nuan sok lau	a place in the sky	*buruan dok kavoh*
Realm Below the Land		
belahut	no equivalent translation	*otu belahut*
kunyuling	no equivalent translation	*otu kunyuling*
The Upriver Realm		
muxit matan lau	realm of the rising sun	*otu muxit matan lau*
bulukuk	mountains	*otu tulik bulukuk; otu tanok otu dogkek; otu pahkavoh*
tanok	lands	*otu tanok; otu dogkek*
The Downriver Realm		
kali	realm of the dead	*buruan dok kavoh* (souls remaining at the death sites)
no name		*suket*
laput lanum	realm of the river mouth	*otu laput lanum* (spirits of wild boars)
lengunang	sea	*ivit; lubuhok; yiang*
lanum	within the waters of a river	*tun lanum; yiang*

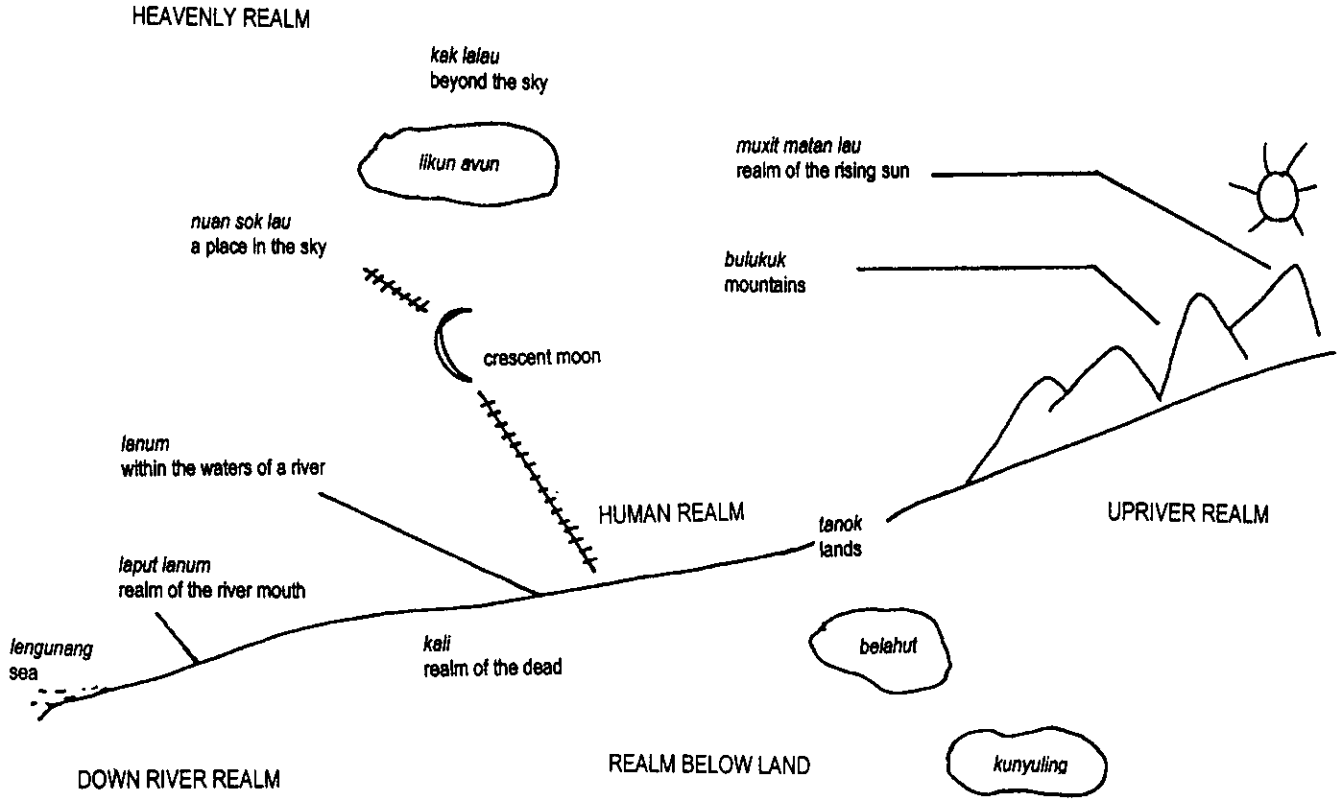


Figure 17: Punan Vuhang Cosmology

Nuan Sok Lau—The region of the *nuan sok lau* ('a place in the sky') or *jik lau tek kakop* ('a region in the lower sky') was where souls of the dead congregated. The Punan Vuhang believed the souls of the dead (*buruan dok kavoh*) existed in a very happy state, always laughing, playing and splashing water (*petitik*). The Punan Vuhang were forbidden to mention a soul's name, not even in a whisper, for the spirits would know of it and then cause rain or even rainstorms. For this reason, the Punan Vuhang were not told the names of their ancestors by their elderly kinsmen. A household was only told an ancestor's name during the naming of a child that took on the name of the ancestor. Then the elders in the community announced the relationship between the newborn child and the dead ancestor. The ancestor was usually of the third or fourth generation, chosen from among the siblings of the individuals' grandparents or great-grandparents whose name only the surviving elders knew.

The soul of the dead or *buruan dok kavoh* traveled to the place of the dead by way of a land bridge called *Batang Tebilong*, which linked the earth and the place of the dead through the moon (*langa'ne*). A dead person's soul traveled up the *Batang Tebilong*, going through the moon to reach the *sok lau* (see Figure 17). The Punan Vuhang heard long ago that a man by the name of Lake' Tungum (of Punan Aput origin) was sleeping on a mountain ridge near the Kapuas River in Indonesian Kalimantan. It was said that through the night, he saw people of all colors and languages passing by him on the ridge. Most of the people were groaning in different languages, some understood by Lake' Tungum, but most unintelligible to him. As he observed further, he saw that the land bridge led to the moon and then beyond.

This story supported the Punan Vuhang belief that the souls of the dead went up to the heavens during the appearance of a new moon (see page 203). It explained how the moon functioned as a bridge between the earth and the sky for the dead spirits to go to their place in the *nuan sok lau*.

The Realm Beneath the Earth

The realm beneath the earth was believed by the Punan Vuhang to be a huge space with its own sky and a ground terrain very similar to that where human beings resided. It consisted of two regions, the *belahut* and the *kunyuling,* with the names of the inhabitants being the same as that of the region in which they dwelled.

Belahut — The *belahut* was the region below the earthly realm that was closest to the surface of the earth. It was a place in which all vegetation was similar in height and as tall as a Punan Vuhang—about 5 feet 2 inches. The plants were small and looked very luxuriant and beautiful.

The *otu belahut* emerged from the earth's surface to fish, although their main food was a type of tuber called *luan*. They lived in wooden longhouses that they did not build, but instantaneously created.

Kunyuling—*Kunyuling* was the region far beneath the earth. It was too far for the soul of a shaman to enter directly from the ground. Instead, he had to go up to *likun avun*, and then dive down to it. In *kunyuling*, all things were red, and even the sunlight was reddish.

The *otu kunyuling* residing there were extremely powerful and no other type of spirit could defeat them. They could take on the form of wind, or turn into a body with a

human likeness. The spirits had huge red bodies with tattoos on their skin. As their realm was so far beneath the earth and beyond the reach of other spirits, they intermarried among themselves. They stayed in longhouses, had families, but did not propagate through sexual intercourse, rather, their children simply emerged out of nowhere. Their food consisted only of the *tanguh* fish (*Tor douronensis*), a single fish being sufficient for a whole longhouse community of *otu kunyuling*.

The *otu kunyuling* were on very good terms with humans. Some *otu kunyuling* would approach the Punan Vuhang to become patron-spirits of shamans. As the role of being a patron-spirit was mainly that of the *otu tulik*, only a few *otu kunyuling* became patron-spirits. Those who did, however, did not relinquish their positions. When their shaman died, they approached the shaman's children and eventually become a patron-spirit of one of the shaman's descendants. This was unlike the *otu tulik*, who returned to their place of origin upon the death of their shamans. An example of an *otu kunyuling* becoming a patron-spirit can be seen in the story of the deeds of Ugang Bilong, a patron-spirit to the shaman Ukih. Upon Ukih's death, the *otu kunyuling* patron-spirit then went to Nahen and Nyinyang. Another *otu kunyuling*, Pogang Loteng, became a patron-spirit to Toyang, Ukin, Jelip, Liwan and Nyinyang. An *otu kunyuling*, Inan Musang, however, only became the patron-spirit to Ngo and did not go to his descendants.

The Upriver Realm

The upriver realm was the domain that ordinary Punan Vuhang could experience, as two of its three regions were not distinctively separated from the human realm. Spirits in these regions frequently mingled with human beings, occasionally with positive consequences, but more often resulting in conflict and injuries to humans.

Muxit Matan Lau—Within the upriver realm, the region farthest upriver, *muxit matan lau*, was the only region that ordinary Punan Vuhang could not reach. *Muxit matan lau*, literally translated as 'where the sun appears,' was the place of the rising sun and thus it was extremely hot. Not much was known about that area since only the most powerful of shamans could withstand its heat. Nonetheless, Lengerik, the head of *otu muxit matan lau* and three other spirits, Boyong, Jilen, and Jinikon, became the patron-spirits of some shamans. The spirits that resided there were *otu tulik* and were called *otu tulik muxit matan lau*. Unlike the *otu tulik* of *likun avun*, most of these spirits did not want to become patron-spirits.

Bulukuk—This mountainous region with peaks and steep cliffs, huge rocks, and rivers with high waterfalls and rapids was the domain of various types of spirits, both benevolent and malevolent. These spirits had frequent contacts with humans. Good spirits assisted the Punan Vuhang whenever requested to do so. The bad ones harmed the human community upon being disturbed, and the malevolent spirits killed humans whenever opportunities arose.

Otu Tulik Bulukuk—The most important spirits found in the mountains were the *otu tulik bulukuk*, spirits similar to those in *likun avun*. These spirits resided inside the rocky formations

of the mountains. Their houses were, like those of the *likun avun*, bright and beautiful. The leaders of the mountain *otu tulik* did not welcome visitors. This was especially so in regards to the shamans or their patron-spirits who requested them to participate in *nyangen* rituals in *likun avun*. They refused to join these *nyangen* rituals because they did not want to be absent from their homes, fearing that marauding spirits would come to raid their communities.

These *otu tulik* had families, spouses and children. Their children emerged out of nowhere and became adults within the same day. They exited and entered the mountains with ease, penetrating through the rock like diving through water. Although these spirits were similar to those of *likun avun*, the terrain inside the mountains where they lived was different from *likun avun*. For example, rivers and trees were not found inside these mountains.

The Punan Vuhang believed that the mountains in the Bahau watershed where the cliffs were covered by clouds during the night were homes of the *otu tulik*. The names of the mountains, and the leaders of the *otu tulik* found in each mountain, were respectively, Bulukuk Sengayan led by the headman Suan Baring, Bulukuk Menanyam led by Jilen, and Tanok Basah led by Nyuking. Two less well-known cliffs were Tukong Bangat and Batu Timang.

These mountain *otu tulik* went to *likun avun* for *nyangen* rituals and some of them became patron-spirits to Punan Vuhang shamans. While most were good natured, some had a marauding nature and raided stores of *busui* in *likun avun* for the highly desired *busui* (musical instruments played during *nyangen* rituals). These warlike *otu tulik* were also archenemies of another type of fierce spirits, the *otu laput lanum*, originating from the realm of the river mouth. When either party went on an offensive against the other, innumerable warriors, like a swarm of bees would take part. There was not much reason for war, except fighting for pride and supremacy. A battle ensued when one party boasted of its greatness and that its king or leader was the most powerful king. This insulted the other spirits, causing them to wage war against the boasters. When an enemy attacked a group of spirits, all the spirits of the same kind united to defend their honor. In an offensive war, however, only those *otu tulik* with the same warlike attitude participated. From time immemorial, neither the *otu tulik* nor the *otu laput lanum* had ever achieved a decisive victory over the other. Consequently, the two archenemies were frequently at war with each other.

The *otu tulik* related to the shamans, especially as patron-spirits, were never involved in these wars. The patron-spirits had immense loyalty to their shamans and only acted under their orders. Moreover, the patron-spirits had no need to be involved in these wars because their leadership in the *nyangen* rituals provided them fame and status achievable by no other means. In addition, some of their enemies, the *otu laput lanum*, participated as audience in the *nyangen* rituals in *likun avun.* This contact resulted in familiarity between the two types of spirits, and consequently, an *otu tulik* patron-spirit found it unsuitable to fight against the other spirits with whom it had relationships.

Otu Tanok—The *otu tanok* were spirits who lived inside big rocks or boulders found in the mountains. They were dwarf spirits about one and a half feet tall and resembled human beings. They looked like little children, and wore clothes and used tools similar to those of the

Punan Vuhang. However, they did not marry and always traveled with a companion of the same sex.

While the *otu tanok* were essentially harmless, they were bad tempered and easily irritated when humans became too noisy. When disturbed by noise, the eyes of an *otu tanok* turned red with anger and then it attempted to kill the offender. For that reason, the Punan Vuhang did not become noisy unnecessarily, or misbehave, out of respect or fear of the *otu tanok*. During festive seasons, however, the *otu tanok* were not offended, as they seemed to understand the need for people to be joyful and merry. This was especially so if the activities involved a shaman. The *otu tanok* had great respect for shamans because many *otu tanok* were assistant spirits to various shamans.

Otu Dogkek— The *otu dogkek* were spirits that resided in conditions similar to those of the *otu tanok*. They were also dwarf spirits that looked like little children. While they wore clothes and used weapons, they differed from the *otu tanok* in that they had little hair and had yellowish skin. While usually only shamans could see them, occasionally ordinary human beings also saw the *otu dogkek*. They lived in communities with leaders called *tokek lapo*. In the mountains they resided mainly along river banks, with their shelters in boulders.

The *otu dogkek* searched for food in pairs, usually at sunrise and sunset, the only times when they were awake. The only food that the *otu dogkek* ate was the very small finger-sized *seluan* fish, which they caught by using lines and hooks. They made the lines from long strands of the female spirits' hair and the fish hooks from *tekurang* bones. These spirits cooked their food over a fire of blue flames that did not produce any heat. The *otu dogkek* did not excrete their food. After eating, they simply rubbed their stomachs with a leaf to ease their digestion.

Otu Pahkavoh—The *otu pahkavoh* were the spirits most hostile toward mankind, always seeking opportunities to kill and eat a human. For that, they were called the *otu pahkavoh*, simply translated, 'killing spirits.' The ability to kill a human elevated their status, and the human heart was a much-craved food. They resided inside big rocks found mainly in flat rivers with hard beds located immediately above big and high waterfalls. The Punan Vuhang called this kind of place *natong*, which they believed to be the nesting grounds where dragons gave birth to their young. The mountainous region of the Bahau had many such places, and the Punan Vuhang believed it to be an area infested with *otu pahkavoh*.

The *otu pahkavoh* were big, white-haired beings and extremely powerful. They produced a foul stench so toxic that a human being who smelled it even from faraway would have a headache and stomachache and vomit. Despite their strength, they armed themselves with knives, spears and blowpipes.[1]

Although the *otu pahkavoh* were very powerful, like all spirits, they could not withstand the heat produced by fire. Even wounds caused by weapons forged with fire resulted in their death. Two stories mention Punan Vuhang killing *otu pahkavoh*. In the first story, a hunter used a spear to kill the hostile spirit. In the second story, a poisoned dart shot

[1] The first Europeans the Punan Vuhang encountered, they believed to be *otu pahkavoh* (see Chapter Seven).

by a blowpipe caused the spirit's death as the poison smeared on the dart had been made with heat from a fire. *Otu pahkavoh* traveled in small groups of twos or threes, or more frequently, alone, in order to prevent shamans from sighting them. Traveling in bigger groups exposed them more easily to the shamans. They feared that a shaman would see and kill them before they had reached an area inhabited by humans.

***Tanok,* the Region of the Land**—The region of *tanok,* or 'land,' was located within the same realm as human beings. The difference was that *tanok* was a spirit realm invisible to the human eye, while the human realm was the natural domain inhabited by life on earth.

The main spirit beings, both the *otu tanok* and the *otu dogkek*, inhabited big rocks and boulders, with the *otu dogkek* residing closer to the river banks. As their shelters were also within the territory inhabited by the Punan Vuhang, these two types of spirits were closely related to the human community. By virtue of their proximity, they were more intimate with the humans than spirits of the same type residing in mountainous regions.

Otu Tanok—*Otu tanok* had a very close relationship with the human community and some occasionally informed the Punan Vuhang of the arrival of the seasonal wild boar migration. This usually occurred after a long period of several months without wild boars. The spirit would one day suddenly appear at daybreak walking around the settlement site, looking like a little boy wearing a loincloth and a bottom protector (*tabin*),[1] and carrying a knife and spear. This indicated that the *otu tanok* was asking the Punan Vuhang to go hunting. Informants maintained that heeding this sign always resulted in a successful hunt.

Otu Dogkek—When a hunter repeatedly failed to obtain game, he could approach an *otu dogkek* for help. One could invoke their help by chanting, *"Kek, kan angkun pok. Oh no' ok kan yut kum*," loosely translated, 'Grandfather (or granduncle), give me some food. Afterwards I will give you your share.' Shortly afterwards, the hunter would be successful. In appreciation for the spirit's help, the hunter would immediately give the *otu dogkek* its share by leaving a little meat or blood on a leaf. The share had to be small, the size of a small twig. The *otu dogkek* would turn the small portion of meat into a quantity sufficient for all its community's needs.

While the humans could ask the *otu dogkek* for help, at times, these spirits also asked the Punan Vuhang for assistance. When the *otu dogkek* was in distress, especially during a period of extreme scarcity of food, one would approach a hunter for help by appearing in his dreams. The next day, the hunter would go out to hunt and successfully obtain game, and then give a little of it to the *otu dogkek*.

In times of very great distress, the *otu dogkek* would appeal to a shaman for help. They would do this with great humility, for they had great respect for shamans. An appeal from the *otu dogkek* occurred as recently as November 1994, even after the community had converted to Christianity and no longer had contact with the spirits. One night, two female *otu dogkek* spirits appeared in a dream to Nyinyang, the surviving former shaman. The following

[1] See Footnote, page 252.

morning, three of his nephews and members of a related household each obtained a fat wild boar. That evening, Nyinyang offered a little of the meat to the *otu dogkek* and invoked the Christian God to show sympathy toward the spirits.

According to Nyinyang, *otu dogkek* previously had not appeared to them after the community's conversion to Christianity, and seeing them now was indicative of a time of very great distress for them. This difficulty could have been related to the drought that had extended into the expected rainy season. It was also a time when there were very few wild boar. Food was scarce during the long drought, and most wild boar became very thin. Frequently, the animals were so thin that the hunters had to abandon the carcasses in the forest because even their hunting dogs found the meat unfit. It was an exceptionally long drought which had not been experienced by the Punan Vuhang for a very long time. Therefore, it was not surprising that the situation had even affected the *otu dogkek* so badly that they had appealed for help from a former shaman no longer in contact with them. This event shows that although they are now Christians, the Punan Vuhang still believe in spirits.

The Downriver Realm

The downriver realm, as the upriver realm, was categorized as a spirit domain distinctively different from the natural human realm.

***Kali*, Region of the Dead**—The first region downriver from the human realm, was *kali*, or region of the dead, which was actually the abandoned campsites where people had died. These sites were located within the territory inhabited by the Punan Vuhang. A death site was not necessarily only to be found downriver. It could also have been upriver from a present settlement, when the community over the years had moved downriver from the earlier abandoned site. However, based on the Punan Vuhang's rule to immediately flee a death site, a move was always in the upriver direction, or a direction toward the hinterlands away from the river bank. The *kali*, therefore, in relative terms, was always the downriver region.

When a person died, one of his or her two souls remained at the death site, while the other went up to the heavens (*nuan sok lau*). According to shamans who frequently saw them, the souls remaining at the death sites were in extremely bad condition, disfigured and hungry. Upon seeing a shaman, they would wave to the shaman for help, but unfortunately, these souls were condemned to their fate and nothing could be done to help them.

The Region of the *Suket*—The region farther downriver, the region of the *suket*, was the beginning of the area that ordinary human beings could not reach. It was a place farther downriver than all the areas inhabited by human communities. The Punan Vuhang had no specific name for this place of the *suket*. Like human beings, the *suket* depended on food for survival. They ate ferns, fished and hunted, and processed sago. After eating, they did not pass any excretion, but merely massaged their stomachs with *anui* and *jalik*, two types of sweet-smelling leaves. Only two *suket*, Lirang and Belavan, were known to have practiced cultivation, and their crops took only one week to mature. When sick, the *suket* performed healing rituals to heal themselves.

The *suket* were similar to human beings, being proud and boastful of their abilities. They could jump across the sky from one place to another, and were powerful and warlike by nature. Probably for this reason, the *otu laput lanum* residing in the region farther downriver, always attacked the *suket*. The equally warlike *otu laput lanum* were probably envious of the *suket*, as Punan Vuhang's stories—with the same name—*suket*, frequently told about their adventurous quests. In this connection, apparently a renowned *suket* named Lirang was the first spirit to lead a warparty to attack the *otu laput lanum*. The *suket* lost. However, they did not give up and afterwards, these two types of spirits were always at war. Whenever they fought, the *suket* were usually defeated.

Laput Lanum—The region of the river mouth, *laput lanum*, was a land-based region located farthest down river. The environment was quite similar to that of *likun avun*, except that instead of its light being white, the light in *laput lanum* was yellowish. Probably, the perception of the light as yellowish was due to the color of the sky during sunset, as the *laput lanum* was west of the Punan Vuhang territory. (The Punan Vuhang do not have a word for the color orange. They call orange, as well as yellow, *nyahang*.)

The *otu laput lanum*, the sole type of spirit inhabiting the river mouth region, densely populated the area of *laput lanum*. These spirits looked like the *otu tulik* and spoke a similar language. They lived in longhouses with innumerable members led by two paramount chiefs of similar authority called Lay Bovong Avun and Barang Longokbat. *Otu laput lanum* did visit *likun avun* for the *nyangen* rituals, but no other "spirit outsiders" could visit them except shamans who had *otu laput lanum* as their patron-spirits. Even so, shamans were also forbidden to enter the inner sanctum, and upon encroachment would be killed. The prohibition for all other beings to enter *laput lanum* could be related to the *otu laput lanum's* bellicosity. As they were warring spirits always on the offensive, it was natural that they had many enemies. In order to avoid certain enemies who might have been disguised as friendly visitors planning a surprise attack, they simply attacked all visitors except for patron shamans.

The *otu laput lanum* were always at war with other spirit beings, especially the *suket* and the *otu tulik* residing in the mountainous regions. In battles against the *suket*, they usually won. However, against the *otu tulik*, they had not achieved any decisive victory, therefore, perpetual war still existed between them. They were also hostile toward humans. However, the famous Punan Vuhang shaman, Rigai, made a pact with the *otu laput lanum*. Consequently, when a Punan Vuhang invoked a chant mentioning that he was a descendant of Rigai, his life would be spared. According to legend, two Punan Vuhang brothers by the names of Kalong Jot and Tipijot, in running away from their father eventually reached the realm of the *otu laput lanum*. They married spirits, and their descendants upon hearing a person speak the Punan Vuhang language, would spare his life. Also, for that matter, the *otu laput lanum* would never attack a Punan Vuhang settlement.

The *otu laput lanum* were hostile toward migrating wild boar and sought opportunities to kill them. The Punan Vuhang had a myth that the migrating wild boar were actually spirits, who turned into wild boar during the major fruiting season (see page 97). When the wild boar were in their spirit form, they always defeated the *otu laput lanum*. Therefore, the *otu laput lanum* would only attack these spirits when they were in their

defenseless form as wild boars. During the peak of the wild boar migration season, the Punan Vuhang believed that the *otu laput lanum* killed many juvenile wild boar. When the Punan Vuhang would cut open a carcass, a small wound was usually found on the heart, and the Punan Vuhang believed that it had been caused by an *otu laput lanum* spear. They also believed that wild boar killed by the *otu laput lanum*, although still fresh, produced a terrible stench, and hunters would ignore such carcasses. At one period of great wild boar spirit "massacres," not a single wild boar reached the headwaters for decades, with the exception of one big one.

The spirits of wild boar resided in a longhouse community on an island in a huge lake. The Punan Vuhang believed the island was located in the rivermouth region. When these spirits traveled in the form of wild boars, they were always accompanied by a spirit called Man Babui ('wild boar's father'). Man Babui would protect the wild boar from attack by their enemies, especially the *otu laput lanum*. Fortunately for Punan Vuhang hunters, the protector spirit of the wild boars, for reasons unknown, always left a trail of clay on the trees along its path. On seeing this clay, the Punan Vuhang did not go hunting in order to avoid clashes with Man Babui. Also, a shaman could see it traveling from afar and would then warn the community of the protector-spirit's impending arrival.

Lengunang—The realm of the sea was the most dangerous of all, and was inhabited by the most powerful and violent spirits. It was a mysterious place, and only the shamans who were powerful enough to enter the hot sun could go there. However, informants did not know of any story of a shaman going there since the shamans had no reason to go there. No spirits from other spheres dared to go to *lengunang* as they would have been killed by the spirits found there.

The two types of spirits inhabiting *lengunang* were *Ivit* and *yiang*. *Ivit* was the brother of Akikato, the creator of the world. But *Ivit* was very wicked and was driven away by Akikato to *lengunang*. Because *Ivit* had no contact with human beings, informants did not know much about him.

The *yiang* were malevolent spirits that journeyed from the sea into the rivers of the human realm. The *yiang* were solitary, traveling alone. They were usually seen in the shape of an animal such as a buffalo, deer or barking deer in the large deep river bays (*liang*). Although *yiang* were malevolent, Punan Vuhang knew few cases of *yiang* attacking human beings. However, when that happened, it was usually fatal, as it was difficult to rescue a drowning victim they had dragged into a deep bay.

Lanum—Within the downriver realm was an area of the river inhabited by the malevolent *yiang* and *tun lanum* spirits. As mentioned above, the *yiang* traveled from the sea into upriver regions to prey on victims in huge deep bays. The *tun lanum*, on the other hand, did not originate from the sea, and their domain was solely in the rivers. A *tun lanum* never rose to the surface of the water nor laid on the river bed. Instead, it always swam in the middle depth of the river. The shape of the *tun lanum* was exactly like that of a human being except that it had very long hair. When it was angry, it would cause a boat to capsize, and when it was very hungry, it would eat a human's soul. Once the soul was bitten, the human died, as the *nalau* healing ritual could not rescue it.

The Danum River (called Lanum) where the Punan Vuhang occasionally ventured was known to be inhabited by the *tun lanum* and the *yiang*. Perhaps this is why the Punan Vuhang seldom went there unless it was absolutely necessary. The spirits only resided in the remote headwater regions of the Danum that had few rapids. Living even further upriver, the Punan Vuhang seldom went downriver where there were many dangerous rapids separated by huge deep river bays. It was likely that due to this downriver location of the *tun lanum* and the *yiang*, the Punan Vuhang thought of the malevolent beings as spirits of the downriver realm.

The orientation of these spirit and human realms (see Figure 17) is similar to that of the Batek (Endicott 1979:50). The Punan Vuhang's heavenly realm and realm beneath the land correspond to the Batek's up/down axis while the Punan Vuhang's sunrise: upriver / sunset: downriver orientation is based on the daily movement of the sun, as is the Batek's east/west orientation. The Punan Vuhang and the Batek also share similar concepts of time. Endicott (1979:51) states that for the Batek, "time is also ordered by the passage of the sun. Many of the terms for different times of day refer directly to the position of the sun in the sky" (Endicott 1979:51). So, following the term *lau* for sun in Punan Vuhang, daybreak is *gang lau* (emerging sun), noon is *o'un lau* (middle sun) and afternoon is *tesing lau* (evening sun).

The *Nyangen* and *Nalau* Rituals

While the Punan Vuhang cosmos consisted of five main realms, only two factors determined the relationship between the human realm and the realms of the spirits. The first was the humans' relationship with the good spirits, and the other with the bad spirits. The human community cemented its relationships with the good spirits in joyous *nyangen* rituals and used the *nalau* healing rituals to defeat the bad spirits.

Nyangen

During *nyangen*, the soul (*buruan*) of the shaman went up to *likun avun* to sing and play a musical instrument called a *busui* with the *otu tulik* spirits. After the musical performance, the spirits played different types of competitive games. As the shaman's soul observed the events, the shaman reported these activities to the human audience. The reports took the form of a singsong narration conducted in the *otu tulik* language. Members who knew this spirit language then translated the songs for the rest of the community. Everyone very much enjoyed these performances. Thambiah's transcription of a *musui*, a singing poem that tells of the work of the *uboh busui* spirit among the Bhuket gives us some idea of the *nyangen* (1995: 165-166). Some of the Bhuket, unlike the Punan Vuhang, despite being Christians continue to practice such rituals.

The shaman began the *nyangen* ritual by shaking a *kayuk busui*, once the community had gathered. The shaking of the *kayuk busui* produced a flute-like sound heard in the heavenly realm of the *likun avun*. Instantly all *otu tulik* spirits related to the shaman gathered at the house of the shaman's patron-spirit, the *pun busui,* whose house served as a place of congregation (*tiring busui)*. The patron-spirit took out *busui* from a 'stronghold' (*tilong*) and distributed the musical instruments to other *otu tulik*. The distribution took place according to the rank or seniority of the patron-spirit, each one taking an instrument first for

himself and then for his spouse. Then, his companion or assistant and the spouse of the assistant were given *busui*. After that, the patron-spirit presented instruments to other *otu tulik*, with the numbers distributed determined by the number of *busui* available.

The *otu tulik* then played the *busui*, producing a beautiful sound heard throughout the spirit realm. This attracted other *otu tulik* to form a large audience. Among them were *otu tulik* related to other shamans. Also, *otu tulik* not related to any shaman but eager to participate in the performance attended, hoping to join the group in future performances.

The sound produced by the *busui* provided background music to the singing. Although other participating *otu tulik* also sang, the main singer was the patron-spirit. While the soul of the shaman went to the heavens to observe the events, in the human realm, the shaman sang songs to community members, following the exact wording, intonation and style used by the *otu tulik*.

Each time the shaman conducted a *nyangen* ritual, a new *busui* was added in *likun avun*. However, in the human world, the shaman used his same *kayuk busui* until a member of the community died and a new one was made after the end of mourning.[1] Both the human community and the spirits eagerly looked forward to a *nyangen* ceremony because it provided great entertainment. Further, the ritual offered an avenue for the *otu tulik* spirits to gain status, as those playing in the musical performance achieved fame. An *otu tulik* who possessed and played a *busui* had his name mentioned and praised in the shaman's narrative. Not only the human community, but also all beings in the spirit realm heard the narration.

Additionally, *otu tulik* wanted to participate in the ritual because, in doing so, they would become very strong, resulting from a close relationship with the shaman. The closeness enabled them to receive heat from the shaman, who, as a human being could handle fire. Heat produced from fire would give exceptional strength to the spirits who would then become very much stronger in comparison to ordinary spirits, who could not withstand heat. And so, it followed that in any form of competition or fight, ordinary spirits lost to spirits related to a shaman.

After the singing and musical performance, the *otu tulik* spirits proceeded to play competitive games. The shaman continued his narration of these activities. An informant used the analogy of a live-broadcast of a football game on radio to describe the shaman's narration. Although the listeners do not see the game being played, they could visualize it from the broadcasted commentary. Similarly, the human community could not see the *otu tulik* spirits, but their familiarity with the *otu tulik* spirits and the types of games they played allowed them to imagine in their minds the spirits playing. Since the narration was also heard throughout the spirit realm, *otu tulik* involved in the games became very famous.

[1] During the mourning period following a death, since singing *nyangen* was a joyous activity, it was forbidden. The community abandoned a *kayuk busui* at the death site and the women made a new one after mourning.

Table 9: Games Played by *Otu Tulik* during *Nyangen* in the *Likun Avun*

Game	Method of Play
Nyalong	a game female spirits played against male spirits
Bongan	the throwing of the *bongan* fruit against another spirit who tried to avoid being hit, those with weaker *lorong* lose
Pokjun	wrestling-like game
Poktojou	racing to be the fastest *otu tulik*
Nyavit	dancing and singing after the end of mourning

***Nalau,* Healing Ritual**

Contact between human beings and bad spirits, in particular the *otu dogkek* and *otu pahkavoh*, resulted in humans becoming sick. The *otu dogkek* would hurt the offender only when disturbed. Otherwise, they did not harm human beings. In contrast, *otu pahkavoh*, or 'killing spirits,' used any opportunity to kill a human being and then eat his heart. *Otu pahkavoh* wished to kill human beings because being able to do so was a great achievement that gave the killing spirit tremendous fame.

Illnesses caused by the bad spirits ranged from mild to serious, requiring different types of healing methods. Also, shamans differed in the methods they used. While some employed parts of their own bodies, such as strands of hair or drops of blood, others depended on healing aids given to them by their *pun busui* patron-spirits. The healing aids, called *Batu Tulik*, were in fact, containers for keeping healing potions. The patron-spirit sometimes gave the *batu tulik* to the shaman through the *otu tanok*, or assistant-spirits. At other times, the soul of the shaman went to *likun avun* to get the healing aids. After they were consumed in a healing ritual, the patron-spirit himself would refill the *batu tulik* container with potion.

The shaman conducted healing rituals at the sick person's shelter. Household members of the patient prepared a special compartment to avoid contact with dogs, as the *tulik* spirits assisting in healing disliked dogs. The most common method for healing involved the use of *kumulang* leaves, a type of plant much feared by evil spirits. The shaman rubbed the leaves on the affected parts of the patient and simultaneously chanted. This was done for common illnesses such as the *seliat*, headaches (*paroh utok*) and vomiting (*nutak*) caused by the *otu dogkek*, or by the stench of the *otu pahkavoh.* If *kumulang* leaves were ineffective, the shaman then turned to a healing agent given by his patron-spirit which he put on the injured part of the patient's body. The aid, by itself, would adhere to the injured part and suck out the cause of the injury. Once the healing agent had cured the injury, it would drop off. Other shamans used a few strands of their hair or a few droplets of their blood to rub onto the affected parts of the patient's body. If these methods proved ineffective, the shaman's soul would go to *likun avun* to obtain other healing aids from his patron-spirit or to receive

instructions on the proper healing method. Alternately, the patron-spirit himself would give another healing agent through the *otu tanok*.

Chest pain, serious stomachache and waist pain were indications of severe wounds inflicted by the *otu pahkavoh*. These kinds of illnesses required a more intense healing ritual. This was crucial, because the life of the shaman was in grave danger, as the killing spirit would try to obstruct the shaman from healing the victim, even to the extent of killing the shaman. The patron-spirit and his protector-spirit *lorong,* then, would come to protect the shaman and ward off the aggressor.[1] The spirits used a wrestling method (*perpitak*) to keep the aggressor from coming near the shaman. Eventually, the *otu pahkavoh* would give up, thus allowing the ritual to be completed within a short time.

Not all the *otu pahkavoh* killing spirits, however, gave up so easily. A hostile spirit that was inherently powerful, or aided by other *otu pahkavoh,* would continue to challenge the patron-spirit and his protector spirit. When the situation worsened, and the life of the shaman became increasingly endangered, the shaman would conduct a *nalau* ritual involving *nyangen*. The shaman summoned all his related *otu tulik* by hitting a knife across an axe hung on a string. This emergency summons (*bukak*) resulted in the *otu tulik* reacting instantly "as fast as lightning" to rescue the shaman. Once they had arrived, the *otu tulik* and their *lorong* protector-spirits formed a defensive circle around the shaman. Within this circle, the patron-spirit and his *lorong* made an inner circle to protect the shaman. As the *otu tulik* fought with the enemy, a battle developed. To enhance the ability of his *otu tulik* to fight, the shaman conducted a *nyangen* and narrated the battle. The fight would go on for up to five days. Occasionally, the *otu pahkavoh* would temporarily win and the patient became worse. Eventually, however, the *otu tulik* won by virtue of their superior strength over the hostile spirits. During the battle, a rainstorm or a very strong wind would come to indicate a victory over the *otu pahkavoh.*

The shaman's spirits had won the battle when all the *lorong* protector-spirits of the *otu tulik* succeeded in grabbing and holding the *otu pahkavoh*. The *lorong* then carried the captured enemies for imprisonment in a place called *luvang malam*, where, the Punan Vuhang believed, the sun sets. Here, they would throw the *otu pahkavoh* into a deep hole and cover it with a big rock. The *luvang malam* was a prison from which no *otu pahkavoh* ever escaped.

During the imprisoning of the defeated *otu pahkavoh*, the shaman's spirits took great precautions to prevent other hostile spirits from coming near the shaman. These aggressive spirits might have taken advantage of the absence of the *lorong* to attack the shaman. Therefore, the patron-spirit and his *lorong* and all the *otu tulik* remained behind to protect the shaman. When the healing was completed, and all possible harm was nullified, the *otu tulik* then returned to *likun avun*.

During all forms of *nalau* healing rituals, the community complied with following several prohibitions. One prohibited children from coming near the sick person to avoid the ill-effects of exposure to the *lorong*, the protector-spirit of the patron-spirit, whose power the children could not endure. Also, the shaman and the patient had to eat their meals together,

[1]Only the *lorong*, however, would fight against the hostile spirit as the patron-spirit had to stay back to protect the life of the shaman, constantly the target of attack by the *otu pahkavoh*.

and avoid eating wild boar. They could only consume fish and small birds which the patient's household would provide. As mentioned above, the community kept their dogs away from the special compartment as the *otu tulik* spirits involved in the healing disliked dogs.

The Roles of Shaman and Spirits

The above described the proceedings of *nyangen* and *nalau* in which several actors were mentioned. This section will describe the various actors' roles which the shaman and his spirits adopted in the *nyangen* rituals and then united to repulse the malevolent spirits. Table 10 compares their roles in the *nyangen* to their roles in the *nalau* rituals (see page 196).

***Nupi*, Shaman**

The above description of the role of the shaman (*nupi*) in the *nyangen* and *nalau* rituals shows how the shaman acted as an intermediary between the human and spirit realms. The function of the shaman served both the needs of the human community and the interests of the spirits, in particular the *otu tulik*. He provided entertainment to the Punan Vuhang in the *nyangen* rituals, which, in turn, gave the *otu tulik* an avenue to gain fame and power in the spirit realm. Otherwise, these spirits would have remained unknown and insignificant. Since the soul of the shaman frequently went to the heavens (*lau* or *likun avun*) to watch the activities taking place there, the Punan Vuhang also called a shaman *aran ang sok lau*, 'he who sees the heavens.' In the *nalau* ritual, the shaman healed sick people afflicted by malevolent spirits. Because he conducted healing rituals, the community also called a shaman *dok ang nalau*, 'he who conducts healing rituals.'

In the *nyangen* ritual, the shaman physically remained in the human realm while his soul, *buruan*, ascended to the heavenly realm of *likun avun*. While his soul witnessed the occurrences there, the shaman narrated these events down in the human realm to the Punan Vuhang community. In the *nalau* ritual, the shaman healed people from spirit-inflicted sicknesses. The shaman used part of his own body or charms given by his patron-spirit, the *pun busui*, to heal. In serious cases, the patron-spirit and other *otu tulik* would come to protect him from the attacking spirits while he was healing the sick.

Of all the shamans known to them, the Punan Vuhang acknowledge that Lawing and Rigai were the most famous. Lawing was a shaman who brought the Punan to the heavenly realm of *likun avun*.[1] After frequently hearing stories about *likun avun*, his people asked him to take them there. One day, he told the community that on a certain day, a ladder would come down from the sky to enable them to go up to *likun avun*. He told the community that they must observe several conditions before they could go. One condition specified that only certain adult people could go first. Pregnant women, teenagers, old people and people who owned dogs would have to follow after. At the appointed time, the ladder came down and two young men went up first. Unfortunately, one old woman with a dog and a pregnant

[1]At that time, the Punan Vuhang were living in their ancestral home at the headwaters of the Balui. The Punan were then divided into two groups. One staying at the Vuhang area were the ancestors of the present Punan Vuhang. The other group, who resided in the Aput area, were the ancestors of the Punan Aput now residing at Long Suleh on the Kayan Ok River in East Kalimantan, Indonesia. Lawing was an ancestor of the Punan Aput.

woman were too impatient to wait for their turn and so rushed to the ladder. As they approached it, the *otu tulik* suddenly pulled it up into the heavens. Consequently, no one else could go up. The two men already up there were trapped and turned into immortals. According to shamans who later met them in *likun avun*, the two men could feel pain as their Punan kinsmen experienced it in the human realm. Because of this story, Lawing is famous. It was only because his people did not stick to the conditions that they could not go up to *likun avun.* Other shamans subsequently attempted to copy Lawing but none ever succeeded.

The other shaman, Rigai, is famous for his 'pact' (*servilak*) with the *otu laput lanum*. These spirits would kill human beings whenever meeting them. With the pact, however, the hostile spirits no longer killed the Punan. This pact was important in the past during the period of wild boar migration and related hunting activities. The *otu laput lanum* were the archenemies of wild boar and during the seasonal wild boar migration, the *otu laput lanum* followed the animals to kill them. On encountering a human being, the spirits would also kill him. To avoid that, when a hunter went hunting during the wild boar season, he chanted, "we are Rigai's grandchildren who had *servilak* (formed a pact) with your ancestors." With this, the *otu laput lanum* no longer attacked them. Also, in the pact, Rigai agreed that Lalong Usai, an *otu laput lanum*, would become his patron-spirit. Acquiring a special ability from the *otu laput lanum,* Rigai became the first shaman who could see spirits during the day. This also made Rigai famous. Other shamans who did not have *otu laput lanum* as their patron-spirits did not possess this ability.

Learning to be a shaman—A shaman was a person who possessed great powers. Unfortunately, if a shaman abused his powers, he might order his patron-spirit to kill people he did not like. A shaman, therefore, had to be a kind and patient person, able to cope with people who offended him without resorting to killing. Consequently, an aspiring shaman had to go through a series of tests to ensure that he possessed noble attributes.

An aspirant would first request an established shaman to take his soul to *likun avun* to learn to become a shaman. If he did not dream that particular night, he presented a precious bead to the shaman to make a fresh request. When he next slept, the shaman then brought his soul (*buruan*) to *likun avun*. Along the way, the *buruan* encountered many obstacles testing whether it had the attributes necessary to become a shaman. Among the first obstacles was a big and aggressive cobra.[1] The *buruan* had to be bold but not act aggressively toward the snake. He would pat the head of the snake as it were a pet. Another obstacle was the necessity to cross a very frail bridge over a steep valley. If the soul attempted to slash the snake in the first instance, or failed to cross the bridge, it could not continue on its journey to *likun avun*.

In his dream a person could not control the reaction of his or her *buruan* toward these obstacles. The *buruan* had its own character, independent of the conscious mind. Although an independent being, the *buruan* had great influence on its owner's character, with an aggressive *buruan* resulting in an aggressive person. Therefore, slashing the snake

[1] The cobra was probably the shaman's *otu tanok* assistant-spirit who appeared as a snake.

showed the character of the aspiring shaman as one who would not hesitate in killing an opponent. Failing to cross the bridge showed him to have a weak character, unable to confront obstacles in life. If he failed these tests, no established shaman would take his *buruan* to *likun avun* again, as it would never pass any future tests.[1]

If the soul of an aspiring shaman passed all its tests, it would reach *likun avun* to become an apprentice shaman. The established shaman would bring it to meet an *otu tulik* who would become the aspirant's teacher. There, the *buruan* of the aspirant first learned the *otu tulik* language. Usually, by the end of the first month, it could comprehend the language. However, it would take him a period of six months to a year before he could fully converse in the new language. Also, the *otu tulik* taught him *nyangen* songs and the style of their singing. An *otu tulik* who taught songs was called a *tulik sangen.*

Throughout the training period, while his soul went to *likun avun* for study, the apprentice would sing the *nyangen* songs to himself in the human realm when he was awake. After a year, he would have acquired the basic skills needed to become a shaman. The community would then request him to conduct a *nyangen* ritual. When he agreed, the womenfolk prepared a *kayuk busui* to be played by an accomplished shaman to accompany him in his first *nyangen* ritual.

During the performance of the first *nyange*n, the established shaman who had brought the apprentice shaman to *likun avun* had to hold the *kayuk busui*. It was forbidden for the apprentice shaman to hold the *kayuk busui* himself. If this prohibition was disobeyed, his soul that had gone to *likun avun* could not return to the human realm. Immediately after the *nyangen*, the community would request him to do an extraordinary feat. The apprentice shaman would humbly say that he was not capable of doing so but would nonetheless try. After a short while, a wild animal, for example, a monkey, a bird, or even a snake, would come and linger at the settlement site. This wild animal was in fact an embodiment of the *otu tanok*, the assistant-spirit of the apprentice shaman. The manifestation of the animal proved that the apprentice had become a real and qualified shaman, or *nupi mongo*.

The first performance of the *nyangen* ritual with the *kayuk busui* was also an important turning point in the *likun avun* region. The use of the *kayuk busui* in the human realm enabled the *tulik sangen* (the new shaman's *otu tulik* teacher) to hold a *busui* for the first time. The holding of the *busui* elevated the status of the *tulik sangen* into that of a *Pun Busui* or full-fledged patron-spirit. This turned him into an extremely powerful spirit who could defeat any non *pun busui* spirit. With the completion of the first ritual, the shaman could manage the *kayuk busui* himself without further help from another shaman.

Over time, the community would ask him to predict future events. When his predictions came true, his status would be further elevated as one who could predict the future. From then onwards, they also asked him to conduct *nalau* healing rituals. This turned him into a complete shaman, a person who could do both the *nyangen* and the *nalau* healing rituals.

[1] Inspite of having passed these tests, however, some shamans, because of their greed and zeal would, over time, become overwhelmed by their negative attributes. Instead of controling their temper, they abused their power. Informants, however, refrained from mentioning their names for fear of offending their spirits.

Table 10: Roles of Spirits during the Rituals of *Nyangen* and *Nalau*

Character	*Nyangen*	*Nalau*
Pun Busui, Patron-Spirit	• led musical performances • main *busui* player • main singer	• provided healing aids to shamans • informed shamans of healing methods • protected shamans when aggressive *otu pahkavoh* attacked
Otu Tulik related to a Shaman	• participants in both musical performances and competitive games	• formed a defensive circle to protect shamans from *otu pahkavoh*
Common *Otu Tulik*	• observers in the audience	• potential raiders of *busui* without a patron-spirit
Lorong, Protector-Spirit	• unknown	• force against aggressive *otu pahkavoh* • force to catch and imprison *otu pahkavoh* • bodyguard of patron-spirit • second *lorong* protected stores of *busui* from raiders
Otu Tanok, Assistant-Spirit	• an observer in the human realm of *nyangen* • warned shaman of approaching enemies • announced the beginning of wild boar migration	• delivered healing aids to shamans from patron-spirits
Otu Dogkek	• no role	• caused minor illnesses • needed shamans to heal their own sick
Otu Pahkavoh, Killing-Spirit	• no role	• main cause of human illnesses • would battle with *otu tulik* to prevent shamans from healing their patients

Predicting the future—The skill of predicting the future was manifested in the ability of the shaman's soul to see visitors on their way to the Punan settlement. The shaman actually based his prediction on the vision of an occurrence that the Punan Vuhang would experience some days later. For example, the shaman might see approaching traders still so far away that it would take them several days to arrive. Judging the distance, he would estimate the likely date of their arrival. The foresight might also be achieved when the shaman's soul went to *likun avun* for a *nyangen* ritual. From there, it could see the approaching traders. Otherwise, his assistant-spirit, the *otu tanok*, would inform him of coming visitors. The *otu tanok* could see traders during its "patrolling" around the surrounding area. Another characteristic of the shaman was the ability of his soul to travel great distances. Frequently, when family members had not returned to camp at the time expected, their relatives would

request the shaman to check on them. He would then conduct a *nyangen* ritual to enable his soul to ascend to the sky and from there check on these missing family members.

A shaman, because of his spirits' protection, usually lived a long life. When he died, one soul remained behind at the death site to become a *buruan dok kavoh*. The other soul went to the heavenly realm to join the *otu tulik* of *likun avun.* It then would become a member of the *likun avun*, unlike ordinary Punan Vuhang who just went to the realm of the dead.

***Pun Busui* Patron-Spirit**

The *pun busui* was the main spirit actor in both the *nyangen* and *nalau* rituals. He led the *nyangen* musical performance by virtue of being the main singer and *busui* player. In competitive games in which the patron-spirit participated, as the most powerful participant, he emerged as the winner. In a healing *nalau* ritual, the *pun busui* sent the shaman healing aids. These aids could be in the form of charms to draw out the source of the illness from the patient. In more complicated cases, the patron-spirit informed the shaman of the appropriate method of treating the patient. When a killing spirit stubbornly resisted a healing ritual, the patron-spirit would come down from *likun avun* to protect the shaman.

A patron-spirit was initially an ordinary *otu tulik* before becoming the patron-spirit of a shaman. When an established shaman brought the soul of an apprentice shaman to the *likun avun*, an *otu tulik* would offer to become the apprentice's teacher. This *otu tulik* was usually related to the established shaman and had participated in the *nyangen* rituals the shaman had previously conducted.

While he was teaching the apprentice, the Punan Vuhang called this spirit a *tulik sangen*. The term *tulik sangen* referred to his main role in teaching singing. When the apprentice became a successful shaman and a *busui* had been given for a *nyangen* ritual, the *tulik sangen* would automatically have his status elevated to that of *pun busui.* As a shaman conducted more *nyangen* sessions, more *busui* were added to the possession of the *pun busui* patron-spirit. The addition of *busui* would attract the ordinary *otu tulik* who did not belong to any established shaman to join this new group of *otu tulik*. Since the patron-spirit used his house as the place of *nyangen* (*tiring busui*), he would become the leader of this group of *otu tulik*. His *otu tulik* followers thus elevated his position to that of *tokek lapo* (headman of a community). Thus, he was responsible for looking after the *busui*. During a raid for *busui* by marauding *otu tulik*, the patron-spirit hid the *busui* inside his spirit body. It was believed that if a patron-spirit failed to protect a *busui*, his shaman would die.

A patron-spirit, by virtue of its intimacy with shamans, was one of the strongest spirits in the spirit realm. Besides holding the *busui*, the patron-spirit's greatest source of strength was the element of heat from fire. He absorbed this heat from the shaman who, as a human being, could handle fire. The element of heat from fire made the patron-spirit extremely strong. However, despite his association with heat, a patron-spirit still could not possess weapons, as the tools cast from fire contained heat that he could not withstand. A patron-spirit, therefore, did not own a weapon. He merely relied on his strength to wrestle and ward off attacks by other spirits. Nevertheless, a patron-spirit named Jilen, the patron-spirit of Panak (see Table 11 page 198) could withstand heat from fire and requested his shaman Panak to give him a knife. Consequently, Jilen, became exceptionally powerful with no spirit able to challenge him.

The patron-spirit, despite his inherent good nature, was, however, blindly loyal to his shaman. He would fulfill any order given by his shaman, including killing a human being, without considering the reason for the action. *Janin* is a term referring to a patron-spirit used by his shaman for killing. Due to the patron spirit's blind loyalty, any aspiring shaman had to be gentle and mild in nature so that he would not abuse his power.[1]

Although a patron-spirit was directly under the control of the shaman, it could also be temperamental. Pagan Oven, the patron-spirit of Nyinyang, once became so angry that he wanted to kill the entire Punan Vuhang community when a mourning period forbade Nyinyang, then a new shaman, from performing a *nyangen* ritual. As the patron-spirit was beginning to play a *busui*, it was suddenly taken away from him. Feeling extremely deprived, he could not control his disappointment and anger, and caused a hailstorm intended to kill the Punan Vuhang. Fortunately, Jidiri Langit and Terajung Avun, patron-spirits of two established shamans, Liwan and Nahen, contained the power of Pagan Oven, the new patron-spirit, and thus reduced the effects of the hailstorm.

Table 11: Some Spirits, related to Shamans, Known to the Community

Shaman	***Pun Busui* Patron-Spirit**	**Companion-Spirit**	***Otu Tanok* Assistant-Spirit**
Nyinyang	Pagan Oven	Jidigin	–
Liwan	Jidiri Langit	Jidilo	Lidivok
Nahen	Terajung Avun	Ping Belavan	–
Lawing	–	–	Lake' Anyie'
Rigai	Lalong Usui	–	–
Panak	Jilen	–	–
Ukih	Ugang Bilong	–	–
Ngo	Inan Musang	–	–

A patron-spirit was usually accompanied by an *otu tulik*. Both the patron-spirit and its companion had wives, but neither had sexual intercourse for as long as their shaman was still alive. In the *nyangen* ritual, these four spirits were the first to hold and play the *busui*. During a *nalau* ritual involving *nyangen*, they formed the inner defensive circle around the shaman. A patron-spirit also possessed two *lorong* protector-spirits who had sworn to protect him. The two *lorong* had different functions with the first serving as bodyguard of the patron-spirit and the other as the caretaker of the *tilong*, the store of *busui*. Another type of spirit, the

[1] During the prehistorical era, intra-tribal spirit warfare occurred between shamans from different Punan groups. These shamans ordered their patron-spirits to attack their enemies (see page 49).

otu tanok, an assistant-spirit to the shaman, also occasionally acted as an intermediary between the patron-spirit and the shaman. Some of these spirits were familiar to the Punan Vuhang and Table 11 above shows examples of spirits with known names.

Among all the patron-spirits known to the Punan Vuhang, most came from *likun avun* which was in the heavenly realm. Some patron-spirits came from mountain *otu tulik*. The main spirits other than the *otu tulik* that became patron-spirits were the *otu laput lanum*, spirits that inhabited the river mouth regions. The other spirits that become patron-spirits, but more rarely, were the *otu kunyuling* from the realm beneath the earth.

Otu Tulik

The *otu tulik* spirits had the closest relationship with the Punan Vuhang and were the main spirits in the *nyangen* ritual, as active participants or audience members. Participating *otu tulik* were those spirits whom the shaman and the patron-spirits had invited to play the *busui* in the musical performances of *nyangen*. During a *nalau* ritual requiring *nyangen*, the shaman summoned these *otu tulik* for protection against the malevolent *otu pahkavoh*.

Most *otu tulik* were not related to any shaman but became part of the audience during *nyangen*. These *otu tulik* desired to join *nyangen* sessions because the shaman in his incantation praised the participating *otu tulik* and they wished for this mentioning of their names and praise. The "enlistment" of new *otu tulik* into a *nyangen* group was restricted due to the limited availability of *busui* which enabled their participation. A new *busui* was only added to the patron-spirit's possession upon the performance of a new *nyangen* session. Due to the large population of *otu tulik*, no amount of *nyangen* sessions could ever meet all their needs. Consequently, many *otu tulik* craving to join a *nyangen* group could not do so and some even resorted to stealing a *busui* when the opportunity arose.

The raiding of *busui* could occur during a *nalau* ritual when the patron-spirit and his bodyguard had to go down to the human realm to protect the shaman. The store of *busui* (*tilong*), then was guarded only by a single *lorong*, who was the second *lorong* sworn to guard the *tilong* of the patron-spirit. As only one spirit was guarding the *tilong*, the *otu tulik* craving *busui* found it tempting to raid the *tilong*. The battle for *busui* caused a rainstorm. However, the more powerful *lorong* repelled the marauding spirits and no *otu tulik* ever succeeded in making off with a *busui*. Nonetheless, they did not give up and continued to attempt raiding a *tilong*. Frequently, the Punan Vuhang attributed the occurrence of rainstorms to the battles between the *lorong* and *otu tulik* raiders.

***Lorong* Protector-Spirit of the Patron-Spirit**

As the *lorong* were invisible to all other beings, thus giving them great advantage over their opponents, each *otu tulik* would make a pact (*servilak*) with a *lorong* for protection. When an *otu tulik* eventually became a *pun busui* patron-spirit, the *lorong* automatically became the patron-spirit's protector. As the role of the *otu tulik* changed from being an ordinary *otu tulik* to becoming a *pun busui*, the *lorong's* role similarly changed, and it was given much greater responsibility, including protecting the life of the shaman. Since a patron-spirit assumed a greater responsibility for its *busui*, it would make a pact with another *lorong* to protect the stores of *busui* from the marauding *otu tulik*.

***Otu Tanok* Assistant Spirit to the Shaman**

The *otu tanok* spirit helped the shaman in healing rituals by delivering healing aids from the patron-spirit. Other than that, informants did not mention any active participation of the *otu tanok* in the healing ritual. In the *nyangen* ritual, it attended the ritual held in the human realm as a passive listener to the singing and narration. Nonetheless, the *otu tanok* would be on its guard for approaching enemies. If the assistant spirit saw enemies within striking distance during the night, it would warn the shaman to stop the *nyangen* ritual so that the community could take immediate precautions. Once it had given a warning, however, the *otu tanok* would not warn a second time.[1]

The appearance of an *otu tanok* was an important indicator that an apprentice shaman had become a real shaman or *nupi mongo*. During the performance of a shaman's first *nyangen* ritual, the appearance of a wild animal that refused to go away was believed to be an embodiment of the *otu tanok*. An *otu tanok* was a constant companion of the shaman and resided in a unique stone kept by the shaman. It went wherever the shaman went. It would stroll about at night and could see approaching parties. Upon a sighting, the *otu tanok* would inform the shaman. If it were an enemy party on a head-hunting raid, the community immediately took the necessary defensive precautions. If they were traders, the community waited with excitement for them to arrive on the expected day.

Otu Dogkek

The *otu dogkek* was a dwarf spirit that caused harm to a human being when disturbed. However, it did not deliberately cause hurt and only acted in response to being hurt or disturbed by a human. Occurrences that hurt the *otu dogkek* usually consisted of three types: disturbing their shelter; destroying their fishing tools; and, the worst offense, cursing them (*portunuk*).

Destroying their habitat, and especially their shelter, occurred during the cutting of a tree. Therefore, when the Punan Vuhang felled a sago palm, they sang a chant requesting the *otu dogkek* to leave the area so that the falling tree would not hurt them. Occasionally, however, some of them did not leave. Consequently, when a tree fell on their home, despite a huge rock protecting them, the *otu dogkek* would feel shaken and then retaliate by hurting the offenders.

A rarer form of disturbance could occur when the *otu dogkek* went fishing. This happened at sunrise and sunset, the times when the *otu dogkek* collected food. The spirits fished with lines and hooks, by either holding the line and waiting for a fish bite or tying the lines to poles stuck in the river bank. Sometimes Punan Vuhang children ran and played by the river bank. If the children disrupted these poles, it irritated the *otu dogkek* which then hurt the children.

---

[1] Informants attributed the killing incident in the Kahei where Iban killed fourteen Punan Vuhang as due to ignoring the *otu tanok's* warning (see page 61). During a *nyangen* session, the *otu tanok* warned Panak, a woman shaman, of approaching enemies and advised her to stop the ritual. Unfortunately, she ignored this and continued performing. After being disregarded, the *otu tanok* did not again warn this shaman.

The most serious actions that harmed the *otu dogkek* were the words of curses toward them. When a person became angry and said expletives, he might lose his control and curse the *otu dogkek*. Should this happen, the curse would affect the children of the spirits and the children would become very sick. Even worse, certain words, for example, *jarum*, resulted in the death of their children or wives. When this occurred, the *otu dogkek* naturally became angry and retaliated against the offender.

The Punan Vuhang held the *nalau* healing ritual to cure these sicknesses caused by the *otu dogkek*. Because the revenge of the *otu dogkek* was seldom serious in nature, healing aids provided by the patron-spirit sufficed. The *otu dogkek* did not hinder the healing, unlike the *otu pahkavoh*, because they had deep respect for shamans. Whenever a shaman's soul met the *otu dogkek*, they talked in the *otu tulik* language. When an *otu dogkek* became sick, they asked a shaman to heal the ill spirit as they had no shamans of their own.

***Otu Pahkavoh*, Killing-Spirits**

Otu pahkavoh were extremely powerful huge white hairy beings. They wished to kill humans both to elevate their status and to satisfy their craving for human hearts. When they attacked humans, a *nalau* healing ritual involving *nyangen* was needed to prevent the *otu pahkavoh* from thwarting the patient's healing, and in more serious cases, attempting to kill the shaman.

Death Related Belief System

The Punan Vuhang had beliefs relating to death—before, during and after a person's death—which greatly affected the community. Besides initiating a period of mourning which prohibited various social activities, death also affected them psychologically due to their fear of the soul of the dead. The Punan Vuhang believed that a person had two souls. The first soul remained with the corpse and was a malevolent spirit harmful to the living and therefore it was necessary to avoid it. For that reason the community had to abandon a death site. The second soul was a good spirit that went up to the place of the dead in the heavens, which the Punan Vuhang called *nuan sok lau*. Initially, it followed the living, and only during the second emergence of the moon after death would it leave for the heavens.

The following section on death is divided into two parts. The first describes former activities related to death, abandoning a death site, mourning and passing through a burial ground. This abandoning of death sites explains why the Punan Vuhang could not become sedentary while the community professed their old belief system. The second section describes phenomena believed to be related to the spirits of the dead and how they influenced the economy of the community.

Before Death

When a shaman had given up hope of healing an individual, the community convened to prepare for the impending death. The shaman informed the community of the failure to heal the patient and then they held discussions to select a new campsite for after

the death.[1] The choices of a new site were limited as only locations upstream from the existing settlement or hinterlands away from the river bank could be considered. They believed that the stench or odor of the corpse flowed downstream and also toward the river, and they had to avoid areas affected by the odor. This could help to explain the common custom practiced among some Punan groups in the abandonment of the entire sector of the territory where death occurred (Sellato 1994:159). Other conditions for a new settlement site, were, as usual, determined by the economic factors of resource sufficiency.

Abandoning a Death Site

On the day following the death, the entire community had to flee the existing settlement site now called the *nuan dok kavoh*, 'the place of the dead,' to establish a new site. The new campsite was a temporary camp *(lepo via)* in which the community resided for only one day, or at the most two days. To occupy the *lepo via* for longer than that would cause another death to occur. The new death would be caused by the sacrilege of *adet servireh*.

The sacrilege of *adet servireh* occurred when a community separated itself into two or more groups, with the groups leaving camp on the same day. A negative result of being 'kicked apart,' *terkakjeh*, was death. The Punan Vuhang associated the concept of separation with *adet servireh* because the dead person's two souls were separated from each other. The first soul remained at the death site, while the second soul followed the community before going to heaven. The fleeing community abandoned the first soul. In effect, the separation of parts of the community and the second soul from the first that remained at the death site caused *adet servireh* to govern the rule of abandoning a camp where a death had occurred. The term *lepo via* was used to indicate the temporary camp set up after death, and differentiate it from a normal temporary camp.

There was a strict rule for fleeing from the death site to the *lepo via* that the household of the dead had to observe. The concerned household members should have been the last to arrive at the new site. They could have been the first to leave the abandoned site, but halfway through the journey they had to stop to let the rest of the community pass. If the journey involved a boat, the household members traveled in the last boat so that the dead person's second soul was guided into following its own household. This prevented the soul from becoming confused and following other households, causing negative effects on the rest of the community.

In the new settlement site, the shelter of the dead person's household should have been the first one on the route, making it the nearest shelter to the abandoned site. This settlement layout enabled the soul to immediately meet its own household upon arriving at the new camp, thus preventing it from mixing with other community members. If deaths had occurred in two households, the same rule applied and both shelters were set up at the same location, close to the path, next to each other.

---

[1] Also, the people believed that on the eve of death the sick person saw the souls of dead family members closely related to him converging at his death bed. In every case, a person who would soon die informed the living of these souls' visits. It was believed that these souls came to accompany the soul of the dying person to the realm of the dead.

Mourning

Mourning began the second day after the death. During the mourning period, it was forbidden to adorn the body with ornaments, pluck eyebrows and eyelashes, and conduct activities associated with happy feelings. Even more strictly prohibited were singing and dancing, playing musical instruments and performing *nyangen* rituals, except the ritual accompanying the healing *nalau* rituals. If one wished to wear a pair of earrings, the rings should have been stone-based, otherwise the exposed elongated earlobes had to be covered with cloth. Mourning rules also forbade the weaving of fine rattan products and the carving of ornaments because the Punan Vuhang associated these refined activities with happy feelings.

Mourning consisted of two phases. The first was mourning by the whole community which lasted for a month. Following that, the dead person's household continued mourning for another month. Upon the first sighting of the new moon, the soul was thought to be ready to go up to the heavens to the place of the dead called *nuan sok lau*. The readiness of the soul to leave the living ended the community mourning period. However, as it only actually left for heaven at the next sighting of the moon, the affected household had to mourn until then.

During the period of mourning, the affected household had to watch for the emerging new moon. When it was thought that the moon was approaching, household members looked in the direction of the emerging new moon. They observed this to enable the dead soul to go quickly to the *nuan sok lau*. The household members watched for the new moon diligently every night until they saw it, for if the members concerned did not do so, it indicated that they did not care whether or not the dead's soul went to the better place in heaven.

For as long as they did not see the moon, the soul (*buruan*) was thought not ready to go to the heavens. After one or two months of non-sighting, the household members had to make more of an effort to help the soul go to heaven. They would climb up a tall tree, high above the tree canopy, to obtain a better view for sighting the moon. If they still did not see it, they regarded the soul as a bad spirit that did not want the community to have a life filled with happiness. On the other hand, if they soon sighted the moon, the soul was considered to be a good one that desired the community to end mourning quickly. They ended community mourning by performing a ritual of waving *laun san* leaves and then chanting:

soyah nyi mapah ciu obat kavoh nyi;	these leaves sweep away the evil that caused the death;
ken in kak sok en nya kavoh nyi;	because of it, his death occurred;
kuen langa'nenya, langa'ne nuam kai morip jian;	it is now the month, the month for us to live a good life;
morip ngavaii, morip sanik oh ren;	to live a healthy and a happy life;
soyah nyi mapah ken in kak sok nya obat kavoh nyi.	these leaves sweep away the evil spirit that caused the death.

Following the end of the community mourning period, community members immediately removed all signs of mourning and adorned themselves with new clothes. They uncovered their earlobes and then put on *isang* ear adornments. All the members also wore

taba'ang necklaces, while the womenfolk wore *pasang* skirts. Since the sighting of the moon occurred during the night, it was then too dark to pluck eyelashes and eye brows. However, by first daylight the next morning, they removed the much-disliked facial hair.[1] Then, they adorned themselves with ornaments and wore beautiful clothes. On the following nights, if they felt like it, they might sing and dance, but usually would not, out of respect for the affected household who still had to mourn for a month. Then, members of the affected household threw a piece of burning wood from the fireplace in the direction of the moon while chanting:

nya pui sirom;	Nah, this is your fire;[2]
nya pui sirom belajak nu nuam ang nyot kavoh kuom;	Nah, your fire as a weapon to kill your enemy that killed you;
koh lak in tovih koh;	take it with you;
avut koh kavoh, avut tei jadi otu;	in case you are killed by your enemy and become a ghost;
tentu patut oh gob lak lawen nya oh nya kavoh kuom;	surely you can fight your adversary by yourself;
komoh potovih.	(you and the fire) go together.

Taking this offering of fire and the chant, the soul then left the living for its new place in heaven. This Punan Vuhang belief of the soul living in the *nuan sok lau* is in contradiction with Sellato who states that "the Punan, apparently having no belief in the existence of a final home for the souls of the dead, see every death as a serious spiritual danger, as the spirit of the deceased remains to wander the earth" (1994:161).

While the above description refers to a general situation of a normal death, a violent death required a much stricter observation. For example, they regarded the occurrence of a man falling from a tree as an extremely dangerous situation to all men in the community. They believed the evil force that caused the death would attempt to take more lives. To neutralize the effect, during each evening, every man performed a ritual and chanted against the malevolent force. The death of a young child, on the other hand, required all young children to tie a string slightly above the ankle on their right foot. The string, called *tali tin* was to prevent the spirit of the dead child from causing the death of other children. Upon the first emergence of the moon, the oldest man in the community used an axe to cut off the string on each child, thus neutralizing the effect of the spirit.

Passing a Death Site

The death site was considered an extremely harmful place because the bad soul of the dead that remained would attack anyone who intruded into its place. Such a belief is also found among the Batek who believe that the spirit of the dead would attack anyone who

[1] This corresponds with Beccari's comment that tribal people disliked any hair which grew on their bodies, including eyebrows and eyelashes (1904:278).

[2] Armed with fire, the soul of the dead could repel any spirits that attempted to harm it. No spirit could come near to fire, as it would be killed.

comes near to the gravesite (Endicott 1979:114). When the Punan Vuhang community had to pass through an area that contained a death site, they would take precautions to avoid the malevolent soul. Before commencing the journey, they held a meeting to decide the appropriate route. They chose the best route which was as far away as possible from the death site. The household of the dead, however, had to take a detour route that bypassed the burial ground from a distance far enough not to attract the soul. When the rest of the community approached the death site, they held a ritual to avoid the negative effect of the dead soul. Every individual slipped a few pieces of *laun long* leaves and a type of fern into the waistbands of their loincloths and chanted:

mengalong tain dok kavoh	the *long* hacks the bowels of the dead
mengalong tain otu	the *long* hacks the bowels of the spirit
paku putu tain dok kavoh ang jiet	the fern severs the bowels of the bad soul
paku putu tain otu ang jiet	the fern severs the bowels of the bad spirit

This chant together with the use of the two types of plants caused the leaves to cut the bowels of the spirit if it attempted to confront the community. As the community passed by the death site, young pre-adolescent children had to look away from the site. After passing some distance away, the leaves were left on the path while chanting:

paku ngotoh tain otu	the fern binds the bowels of the spirit
paku ngotoh tain dok kavoh	the fern binds the bowels of the dead spirit
long malin tain otu	the *long* hides the bowels of the spirit
long malin tain dok kavoh	the *long* hides the bowels of the dead spirit

The *long* leaves and the fern, empowered by the chant, became an obstacle to the spirit of the dead. If it tried to pass the obstacle, the *long* leaves and the fern would burn its bowels. The ritual thus prevented the dead person's malevolent spirit from pursuing the living. At an appointed spot, a distance away from the death site, the household of the dead person then joined the rest of the community. As they used a distant route that bypassed the death site, the spirit would not be aware of them.

If an intrusion occurred at the death site, the offender had to pay a fine to the household of the dead to neutralize the sacrilege. They had to observe this, even if it had been an unintentional trespass such as, for example, following dogs that were chasing game. As one would usually relate his traveling and the routes used in the journey, a person who had not been aware of the death site would eventually come to know of his trespass. Any person who committed such a desecration would apologize to the affected household and offer to pay a fine in the form of a knife or spear. The acceptance of the apology would neutralize any intended retaliatory actions of the dead spirit. However, it was entirely up to the household whether or not to accept the fine as it was not mandatory for them to do so.

Beliefs Related to the Spirits of the Dead

The Punan Vuhang believed that certain occurrences, even long after the end of mourning, were related to the influence of the souls of the dead. Two aspects related to

death seriously affected the economic system. The first was *ciu otu* and the second was *longotu*. *Ciu otu*, loosely translated as 'thrown away by the spirit,' described a drastic reduction of productive yield from any economic activity carried out again for the first time after the death. *Longotu* (no equivalent translation) was a prolonged period of rainfall, resulting from the first conduct of any activity that had once been carried out with the dead person during his lifetime.

These two beliefs continue in the community up to this day. Since the community's conversion to Christianity, it is now believed that only those members who pray against being affected by them will be free of them.

Ciu Otu [1]

The end of mourning marks the beginning of *ciu otu* which is a phenomenon affecting the yield of any activity conducted for the first time since the end of mourning. According to shamans who have witnessed the situation, the soul of the dead is pleased with the activities of the living and also participates in them. However, instead of helping the living members, the spirit throws away the production yield. The term of *ciu otu*, meaning 'thrown away by the spirit,' is used to explain the exceptionally low yield.

This low yield occurs with *ciu otu* and appears in all forms of economic activities and the Punan Vuhang cannot avoid it. It mainly occurs in two situations, with both phenomena related to the first time an activity is initiated after a death. The first phenomenon is related to the initiation of an economic activity for the first time after mourning. The second phenomenon involves a more complicated process, in that it will occur when members who had formerly participated together in an activity come together again to take part in the same kind of activity after a death. *Ciu otu* will happen, regardless of the length of the period after the death, and may even happen many decades later.

In the first case of *ciu otu*, sago production, despite giving all indications of a very good yield, will produce only a little starch, or, when the Punan Vuhang are hunting with dogs, game seemingly surrounded by the dogs suddenly disappears. A short time before the hunter approaches the cornered game, the dogs suddenly stop barking as they have lost track of the game, which the Punan Vuhang believe the soul has taken and thrown away. If the dogs have not tracked down any game, *ciu otu* does not occur. In blowpipe hunting, a hunter obtains no game and even if a bird or animal has been shot with the blowpipe, it will survive and elude the hunter. Even if it falls to the ground from a tall tree, a hunter will not be able to find the carcass. In fishing, the Punan Vuhang will catch only a few small fish after many attempts, even though the fish have been abundant at other times.

The second instance of *ciu otu* occurs when members who, before the person's death, performed an activity together. For example, hunter A had gone hunting with a group of four other hunters, B, C, D and E before the death of X. After the death of X, if hunter A goes hunting with any of these four men, *ciu otu* can take place. Similarly, if any of these members go hunting together, regardless of the combination, *ciu otu* will occur, as long as some of these members are participating together again for the first time since the death.

[1] During fieldwork, some church leaders did not experience the effects of *ciu otu* and *longotu*, and I believe that in the future, this belief might be ignored.

Even the addition of new members not involved in the earlier groupings will not nullify the effect.

During my fieldwork in 1994, a trader participated with some Punan Vuhang women in processing sago. The sago starch yield was very little although the sago trunk was in excellent condition. The Punan Vuhang attributed the low yield to *ciu otu* because this man had not processed sago with the community for a very long time and there had been many deaths in the intervening years. The last time that he had participated with them was before the late 1960s when the Punan Vuhang were still nomadic. Despite the passing of three decades, *ciu otu* still occurred.

The return to an area by a person who had performed an activity with a person who has since died will also result in *ciu otu*. Frequently, the participation of an elderly man in a collecting expedition to a distant area also has this effect. When this happens, the old man will explain to the younger men that in the past, a person now dead, had participated in the same kind of activity with him at that place.

Although *ciu otu* occurs after all forms of economic activities, the community can reduce its negative effect in sago processing. By draining the solution from the starch after only several rounds of filtering, the soul of the dead is tricked into "thinking" that the whole process has been completed. So the soul will throw the processed starch away. Following that, they believe the soul will leave the place and they can then resume sago processing without further disturbance. Consequently, *ciu otu* no longer happens in the later filtering process. They usually do this to trick the soul whenever they feel *ciu otu* will affect their work.

Longotu

Longotu, which has no literal translation, refers to the occurrence of a continuous but light rainfall. It can last for several hours or even a whole day. Rainy weather prevents searching for food. On such rainy days, the community feels bored and if food is scarce, hungry and miserable. The factors that lead to *longotu* are similar to those leading to *ciu otu*. Like *ciu otu*, *longotu* is a result of the first time an activity is initiated after a death, but only by a person who had done it with the person before he died.

A few hours following the activity, or more usually the next day, *longotu* will occur. If no rain falls during the second day, a whole day of continuous rain will come during the third day. The Punan Vuhang call this whole day of raining *longotu poloh*. Although *longotu* is similar to *ciu otu*, it also has significant differences. Unlike *ciu otu*, which results only from economic activities, *longotu* occurs to a much greater extent. Not only economic activities cause it, all forms of social activities may bring it about. These include the first group singing and dancing, and a common meal among kinsmen who are closely related to the dead. It also applies to the surviving spouse's participation with unmarried members in a social gathering. Another difference from *ciu otu* is that *longotu* will happen right after all types of activities have taken place. *Ciu otu* will only affect hunting after any shooting or chasing of game by dogs. *Ciu otu* will not occur in an uneventful hunt despite conducting it several times, whereas *longotu* will happen just after a first hunt regardless of the result.

The Punan Vuhang believe that *longotu* occurs because the souls in heaven (*nuan sok lau*) are causing the rainfall. The soul that has just arrived in heaven is nostalgic for the activity conducted for the first time by a closely related individual. Other souls in heaven feel

happy and they play in the river. Their splashing of water results in water droplets falling from the sky. They play for a long time, thus causing the continuous daylong light rain.

Seliat Buruan Dok Kavoh, Effect of the Dead

Seliat buruan dok kavoh is the term describing an effect of the dead which occurs when, during a joyous social gathering, a child suddenly vomits. This usually happens during a major event of fruit or honey collecting, or the *lolong* festival. The community believes that during these events, the souls of the dead come down from the heaven to participate with the living. Their presence will, however, be negative for one or two children who are not strong enough to ward off the effect of the spirits. Consequently, the spirit contact will cause a child to vomit. A shaman can identify this phenomenon by rubbing the affected child's hair and head to feel whether they are cold. If they are cold, then the vomiting was an effect of the dead, or *seliat buruan dok kavoh*. The shaman will rub *kayu kumulang* leaves on the child's head which will cause the child to sweat and then sleep. When he wakes up later, he will be recovered.

Adet Behok Augury Beliefs

Before they became Christians, the Punan Vuhang held beliefs pertaining to auguries that directly regulated their lives. They believed the augural spirits appeared in the forms of various birds and animals. The augural spirits, *behok*, appeared to show their favor or disfavor concerning particular activities being undertaken or planned. If the people did not heed unfavorable omens, disasters would befall them. This belief corresponds to King, "Borneo peoples hold to the importance of signs or augurs from the gods, usually communicated by birds, but also by certain animals" (1993:235; see also Jensen 1974:127-134; Metcalf 1976: 96-123; Rousseau 1998:67-72; Sather 1985: 1-36, 2006:763-798). There were two types of auguries; the first type regulated daily affairs and the second regulated camp movement and foretold the outcome of planned warfare.

Auguries Regulating Daily Affairs

A favorable augury was indicated by a bird flying from right to left across the direction a person was heading. The *telajan* augury bird, however, flew from left to right to indicate its favor. Augury signs were also indicated through the calls of the birds. If an individual heard the sound from the right side, it was favorable. For unfavorable auguries, the direction of encounter was from left to the right crossing the path of the person, but for the *telajan*, from right to left. When a person was on his way to begin an activity, if he encountered a favorable augury, he would continue as the augury spirit had shown its approval and he would be successful in whatever he intended to do. However, if he met an unfavorable one, he had to stop and immediately return to the camp. Depending on the type of augury, he had to remain in camp for a period from one day and one night to three days and three nights. Table 12 below shows the types of auguries and the duration that a person coming across them had to remain in camp. Of all the auguries, only the *buwau*, *likiyan* and *savut* required a person to stay put for three days and three nights.

Table 12: Auguries for Daily Activities[1]

Scientific Name	English Name	Punan Vuhang Name	Leader of the Spirits	Duration of abstaining from work
–	–	*buwau*	Kalong	3 days & 3 nights
–	bat	*likiyan*	Atu Aki	3 days & 3 nights
Haliastur indus intermedius	brahminy kite	*savut*	Jemaling	1 day & night
Sasia abnormis abnormis	rufous piculet	*bukang*	Manok Nadang	1 day & night
Platylophus galericulatus coronatus	crested jay	*telajan*	Ivat Imang	1 day & night
Harpactes sp. (♂);	trogon	*legehek* (male)	Ngiligei	1 day & night
Pericrocotus sp. (♂);	”			
Artamus leucorhynchus leucorhynchus (♂)	”			
Harpactes sp. (♀);	trogon	*mungulung* (female)	Bakakah	1 day & night
Pericrocotus sp. (♀);	”			
Artamus leucorhynchus leucorhynchus (♀);	”			
Lacedo pulchella melanops	banded kingfisher	*assee*	Okai	1 day & night
Blythipicus rubiginosus parvus	maroon woodpecker	*pee-it*	Kutuk	1 day & night

Hearing the call of most augury birds at daybreak did not prohibit the community from going out to search for food. This was because the people could not determine the direction from which the call had originated - from the left or the right. However, there were three auguries whose calls in the morning prohibited the entire community from leaving camp. These daybreak auguries, or *behok gang lau,* were called *assee*, *telajan* and *likiyan*, and they prohibited all community members from going out regardless of the food needs of their households. However, a hunter could perform a ritual to avoid the effect of the *behok gang lau* if his household was in dire need of food within the next few days. He waved a *laun ikpo* or a fern, *paku*, over a fire and recited a chant. The chanting caused the fern to kill the augury spirit that had attempted to harm him:

Nutong tain ang di behoknya,	The bowel of the augury will be burnt,
nutong luang nyi mek kai kavoh,	its stomach will be burnt if we die,
nutong hin beh kai niut,	its body will be burnt if we are hit,
beh kai ovan,	or if we are wounded,
purip kan angkun kai,	give us life by giving us our food,
kan bavui, kan payau, kan laut,	give to us wild boar, deer and animals,
jian orip kuen kai	so that we can live a good life!

[1] See Lake' Baling (2002: 63-66) and Rousseau (1998:67-72) for a Kayan version of the auguries. The Brahminy Kite, Rufous Piculet, Crested Jay, Banded Kingfisher and Maroon Woodpecker are found in the Kayan augury.

After that, the hunter could go his way without any harm coming to him. The ritual served to warn the spirits that the fern would destroy them if any harm befell the hunter. A person could only perform this ritual if his household was in urgent need of food and if he was brave enough to challenge the spirits. A timid person would not do it unless it was an absolute necessity.

If hunters heard unfavorable auguries for as many as four consecutive nights, it meant they had to leave their campsite. Before leaving, each household had to conduct a *tanok polo* ritual to call on the auguries to allow them to leave. The oldest man in each household took a strand of hair or a thread from his pants or loincloth for spinning around a stick. He placed the stick spun with thread beside a fire and chanted:

Ni patahin kai luek magom nu nyi,	What leisure is this that we have to face,
kai jo tahan kai mojob,	we could not tolerate being hungry,
kai joh tahan kai joh kejian angkun,	we could not endure not having any food,
nyi hin kai luek magom ang ni,	we have been resting here holding this [stick],
makjom pui, luek kai onya	when the fire goes out, we will leave behind the stick,
teh oh kai keyap	then we will have to go on our way

This ritual requested that the augury spirits understand their predicament and allow them to leave the camp for a new place.

During the usual move from a place with depleted resources to a new site, if they had been confined to an area for more than three nights due to bad *behok*, they would perform a ritual to alleviate its effects. Like the ritual above, an old man would spin a strand of hair or thread from his pants or loincloth around a stick. Placing the stick spun with thread on the three stone tripod fire stand (*tatuk pui*), he would chant:

nyi hin kai luek ni oh nyi,	Here we have been resting,
kai polo oh nyi oh ren,	we really would feel dull if we have to remain here,
kakjiknya kai tei,	after this we have to go,
kai terloa lain abok, lain behok,	There are too many bad *behok* calls,
kai polo nyi,	we are really bored,
oh nyi luek, alumnya, pelekoh kai,	Stay back while we have to depart,
kai muvut,	we have to leave,
ivok kayu, irap ivei, jah in luek.	hair and thread on the stick, stay back!

Auguries Regulating Movement of Camp and Warfare

As nomads, the people were constantly on the move to new areas, but when they encountered *lajaring* and *lasaring* auguries, the community had to return to the camp and stay put for half a month. The *lajaring* was a snake with a red head and a red tail, and the *lasaring* was a type of millipede. Upon having seen the *lajaring* snake augury, the Punan Vuhang could not do anything but observe the taboo. However, upon having seen the *lasaring* millipede, if they wanted to go on with the journey, they could simply slash it in two, then put one end of the body on the left side of the path and the other on the right, and continue the journey. Otherwise they had to stay put at the camp for half a month. While

staying back at the camp, community members were permitted to collect food as usual as the two auguries only applied to whole camp movements.

Besides preventing people from moving camp, these two *behok* also regulated the journey of a war party. If the war party met either of these two *behok*, they had to return or else they would be defeated and killed during an encounter with their enemies.

Two other auguries, the barking deer (*tela'u*) and the *munim* civet pertained solely to warfare. The prohibitions of these *behok* were similar to those of the two *behok* mentioned above. However, unlike the snake and the millipede auguries that could not be eaten, the *tela'u* and *munim* were food sources that the people frequently hunted, although warriors who had made war and killed enemies found the meat of these two animals very bitter. After consumption they became speechless for awhile. Being protected by the spirits of these animals during warfare, they should not have eaten the flesh.

In addition to these four auguries, two more auguries that regulated daily affairs were also observed by the Punan Vuhang in the past during battles. At the start of a war party's journey, the sight or sound of the *mungulung* augury bird was favorable and signaled support from the augury spirits. The war party then stopped for an elder warrior to perform a ritual to acknowledge the blessing of the augury and to seek its further help. The man took a piece of a dead *legeheh* branch and shaved the wood into small long strips to kindle a fire, then chanted for help from the augury:

Nah ni sok kai benyi,	Nah here we are,
kai ni gam koh nyi,	we bring you along with us,
nah jian longan kai,	we are thankful for your support,
mek koh nyi nyok pikjak kiap kai,	as you become our guardian,
nek koh nyi nyioh, pikyun kai.	as you lead us and uphold us,
nyium polokoh kai deh nyuit usuk, nyuit ovi linau,	don't let us become a victim of enemies' spears and knives,
sok hai so hai deh.	wherever we go.
Nyuim polokoh kai ovan mek linau nyi nek kai deh,	Don't let us become wounded by enemies as we attack them,
avut kai kavoh koh, avut kai nyuit usuk koh, nyuit ovi, nyuit bolo'ang koh,	prevent us from dying, protect us from being impaled by enemies' spears and their knives,
avut kai nyuit takgeh, nyuit pakgoh koh.	shield us from the darts of blowpipes.
Nyuim polokoh kai kena,	Don't let us become hit by anything,
pikyun busuk kai lamok-lamok sok kai mek linau,	guide us all the way until we encounter our enemies,
gon koh mek kai lumak ngavoh linau,	give us an easy victory to kill our enemies,
gon koh mek doh nga'joh tikgob kai.	make our enemies blind to our attack.

If they did not hear any signs from the auguries, they returned to camp and waited for another time to begin the journey. After hearing the *mungulung* omen, the sound or signal of a favorable sign from the *telajan* augury then indicated the war augury spirits' favor. After that, if they came across any unfavorable auguries on that day, they could safely ignore them.

During the first night of camp on the journey, a favorable sign from the *likiyan* further indicated a very good prospect for warfare. The leader of the group then would

perform a ritual to acknowledge the augury spirit. By a fire specially made for this purpose, he chanted in the direction of the call:

Pui sirongnya,	This fire for your warming,
gon koh pikyun kai, kai nyi ke'yap,	support us as we go on our way,
jian longan kai sok koh leyannya,	we are so glad of your approval,
nuan koh nulip matan doh,	let the enemies focus on your flight
avut doh aran kai nyi dei i,	so that they won't see us,
hei-hei hak linau mek kai nyi dei mohoi,	anywhere we go,
nuan koh nulip matan doh nya lavu matan doh, avut doh aran kai,	your flight clouds their vision, so that they won't see us,
Nah! Beh kai nyi dei sauk,	Nah! As we leave tomorrow,
gahang-gahang kai nyom kai dok ji dei tapah,	make sure the number of our warriors remains the same,
nyon dok ji kavoh sok kai, nyon kai ten palit	protect every one of us from becoming a victim.

If there was no augury of the *likiyan* that first night, they had to return to the camp the next day to wait for another favorable time to pursue the war. With the observance of all these auguries, the Punan Vuhang claimed that they never lost a life during their attacks on enemies.

The augury system, although thought to proffer warnings that saved lives, was a major hindrance in economic activities. During the restrictions imposed by unfavorable auguries, the Punan Vuhang had to remain in camp despite the lack of food. Nonetheless, they believed observance of these augury spirits was for their benefit as the auguries foretold future events that would affect their lives.

Conclusion

To conclude our description of Punan Vuhang cosmology and beliefs, it is useful to consider Sellato's view of "the Punan band as a 'secular' society, pragmatic and little given to religious belief or behavior" (1994:162).

Sellato's characterization of the Punan as being non-religious is based on the fact that: "The Punan have few or no prohibitions, omens or auguries, curing or purification ceremonies for the sick, or rituals related to the extraction of sago, hunting, or gathering. . .When they do have them, they seem to be traits that have been borrowed and considerably simplified" (1994:161).

After becoming sedentary, "the Punan in general took up rice farming divested of its rituals. . . . [and showed] no special interest in adopting the farmers' body of beliefs" (1994:206).

> Their evident reluctance to grant a sacred character to a material object like a house or to an economic activity like rice farming (two spheres closely linked and highly ritualized among the settled peoples but secular among the Punan), along with an absence of any inclination towards their neighbors' cosmogonic beliefs and theories, the notable minimalism of the ritual and religious sphere in the Punan traditional culture, and their lack of enthusiasm for borrowed rituals, all lead to the conclusion

> that Punan societies are fundamentally nonreligious and solidly pragmatic (1994:206-207).

Sellato's description of the Punan as nonreligious follows Turnbull (1961:198) who sees the BaMbuti pygmies as not a "ritualistically minded people." To Sellato, "This phrase seems completely adequate as a characterization of the Punan: although it cannot be said that they have no religion, it seems evident that they are not a religiously minded people" (1994:207).

However, the question of Punan religiosity can usefully be considered in terms of Endicott's description of Batek religion:

> The few rituals the Bateks do have, such as the blood sacrifice and the singing and trancing sessions, do not follow rigidly fixed patterns. They contain a small core of standardized acts surrounded by a great mass of options and alternatives.… They have no general term for ritual, and they normally designate particular rituals by ordinary terms describing the actions engaged in. For example, the blood sacrifice is simply called 'throwing blood'. But it is possible to distinguish categories of Batek behaviour according to the orientations of the activities. *I think it is justifiable to regard as religious ritual all those actions that are directed toward the superhuman beings, even though they may show few of the outward signs of behavioural patterning that are usually the mark of religious rites* (1979:23) [emphasis mine].

To me, Endicott's way of identifying religious behavior is preferable, as it is more objective. For it is not for us to impose externally defined patterns of behavior, as Sellato does in using sedentary people's categories to define the Punan. Instead, if we apply Endicott's description of Batek religion (1979:25) as "an all-encompassing framework of ideas and actions that makes the world intelligible and gives meaning and value to the whole of Batek life," we may say that Punan Vuhang's beliefs were complete and did not need to incorporate other people's rituals or beliefs. This was evidenced by their initial reluctance to accept *Adet Bungan* when they were persuaded to adopt agriculture, as is described in the next chapter. Even after adopting this new religion, they retained their practice of singing and healing rituals.

If we adopt Endicott's notion and accept as religious ritual all actions directed toward superhuman beings, we can say the Punan Vuhang were undoubtedly religious. Their cosmology described spirits and the spirit realms, with humans living in their midst, and in both the *nyangen* singing ritual and the *nalau* healing ritual, it was believed that spirits interacted with humans or human souls. Their death-related beliefs also assumed potential human/spirit interactions.

Chapter Seven: Settling Down and Adapting to Change

In the first half of the 1960s, events following Indonesian-Malaysian Confrontation (1963-1966) brought about drastic changes to the Punan Vuhang that eventually led them to adopt new beliefs, cultivation, and permanent settlement in place of their former mobile economy. This chapter begins by narrating these events as they were related by my informants. Described here are contacts between the Punan Vuhang and the Commonwealth Forces that patroled the border area to prevent Indonesian soldiers from infiltrating into Sarawak. The story tells how a Kayan trader persuaded them to adopt agriculture and their reactions. Events surrounding this adoption of cultivation, in particular mass deaths, believed by the Punan Vuhang to be due to their having abandoned their traditions, are narrated in detail. However, an influential leader eventually persuaded the community to persist with cultivation despite their initial negative experiences.

The Punan Vuhang adopted cultivation at the same time as their conversion to *Adet Bungan*, a new religion that was believed to nullify the negative effects of bad auguries that would have hindered their agricultural activities. Occurrences of mass deaths later led them to convert to Christianity. The chapter ends with a brief description of the present practice of Christianity.

The Era of Indonesian-Malaysian Confrontation, 1963-1966

The regional crisis caused by Indonesia invading Sarawak brought calamity to the whole region. Incursions took place at border passes between Kalimantan and Sarawak, including assaults that occurred at the Balui headwaters where major access routes existed between the two bordering states. The Punan Vuhang lived along one of these border passes and so were affected by Confrontation. Commonwealth Forces, under the command of the British army, guarded the border passes, and one group stayed with the Punan Vuhang and moved camp whenever the people moved. Although the situation was tense, for the Punan Vuhang it is remembered as a period of easy life as they were given ample food provisions by the army.[1]

The initial experiences of Confrontation during the beginning of the border crisis were frightening to the Punan Vuhang. Iban soldiers on border surveillance were thought to be headhunters on the prowl. Fearing these "headhunters," the Punan Vuhang moved up the Linau headwaters to be as far as possible from the Iban. They stayed in places unknown to people who were not familiar with them. Not long after this, Kesing, a Lahanan traveler, told them of the impending Confrontation.[2] Informants said this made them even more nervous as they did not know whether they, themselves, or the British Colonial Government

[1] Due to the difficulty of transportation through the Kihan-Kajang route, the Indonesian army abandoned their intended invasion through this pass. Nonetheless, there were concentrations of soldiers across the border and the British army had to guard the pass.

[2] Kesing was going from Kalimantan to Belaga to inform his brother of the movement of Indonesian soldiers across the border. Kesing is a Lahanan of Belaga and lived with the Busang-Bahau (who speak the same language as the Kayan) in the Upper Mahakam River. Kesing is the brother of Ulok Imang, the trader who frequently visited the Punan Vuhang. Ulok Imang was an important figure in subsequent Punan Vuhang historical development.

were the target of Indonesian forces.[1] It was a time of fear as they were trapped between Iban "headhunters" and Indonesian forces. Not knowing what to do, they decided to remain in hiding.

After Kesing left for Belaga, further events relating to Confrontation took place. Kesing's brother, Ulok Imang, brought Sarawak government officials to spy on the ground conditions across the border. The Punan Vuhang brought them into the Kihan and found a concentration of Indonesian soldiers preparing to invade Sarawak through the Kihan-Linau or Kajang route. After the spies returned, no traders came to visit them anymore. Of all the trade goods that they lacked, the Punan Vuhang most craved tobacco. A group seeking tobacco from their kinsmen in the Kihan in Kalimantan were caught by the Indonesian soldiers. The Indonesian army decided to engage them as informers to spy on British army movements in Sarawak by inducing their leader to come to them for negotiations. By setting a conditional release, some men were withheld and others were told to return. The returning men were instructed to ask their headman to go over to the Indonesian side to negotiate for their kinsmen's release. The leader, Nyinyang, went as ordered. He was forced to agree to a swearing ceremony that sealed their alliance to the Indonesians as a condition for his men's release. Upon their return to Sarawak, they were to act as spies for the Indonesian army. However, later events showed that the Punan Vuhang broke this promise.

Not long after their return, the Punan Vuhang encountered flying machines of a different kind than those experienced during the Second World War. These planes—helicopters with roaring sounds that seemed to come from different directions, but were able to float stationary in the air— were perceived as flying spirits. One day during this period of "flying spirits," a hunter returned to camp to report something about "meruka" which turned out to be Gurkha soldiers as he did not know how to pronounce the word "Gurkha." This was the first direct encounter with the Commonwealth Forces and the Gurkhas were a component of the army. The encounter with the Gurkhas was a frightening experience because miscommunication between them resulted in serious misunderstandings for both parties.

As narrated by Naro, my key informant on this period, to find out who the "meruka" were, some youths led by Nyinyang went to check them out. They met the Gurkha soldiers who inquired in broken Malay about the presence of Indonesian soldiers. The Punan Vuhang pretended not to understand and asked whether it was wild boar that they were asking about. Upon further query, they again pretended not to know and asked the soldiers to go to their camp for inspection. Two Gurkha soldiers followed a distance behind the main group to avoid being ambushed as their leader walked with the Punan Vuhang.

The first misunderstanding occurred when the leader asked Nyinyang whether the walk to their camp would take "lima-puluh minit" (i.e., 50 minutes in Malay). Nyinyang answered confidently, "Ya!" (Yes!) without knowing what the question meant. When the time was up, Nyinyang, not understanding the time concept, said that another 10 minutes were required to reach camp. Then the walking went past 20 minutes and they had yet to reach the destination. Because of the misunderstanding, tension rose and the Gurkhas accused

[1] After the Second World War, the Brooke Administration under Charles Vyner Brooke handed Sarawak over to Britain and it became a British Crown Colony in 1946.

Nyinyang of plotting to kill them. Nyinyang wanted to keep walking but the soldiers wanted to make camp there. In broken Malay, Nyinyang managed to convince the leader that he would guarantee their safety. After that, they continued on until they reached the Punan Vuhang camp. The leader was very vigilant and checked everything and everything people did. Assured that everything was all right, the three Gurkhas set up camp with the Punan Vuhang.

The next day the tension continued as the Gurkhas wanted to go to a place called Sungei Lanang. The Punan Vuhang said no such place existed. When shown a map to the intended location, they simply led the Gurkhas despite not knowing what the map signified. They brought the soldiers to a distant watershed between the Putik and Peluan far from the place the soldiers had wanted to go. It was strange to them that they had been led to that site when they should have gone to the nearby Sungai Lahang which sounded similar to Lanang. In any case, when the Gurkhas checked the map, they found the place not to be where they had wanted to go.[1] The Gurkha accused the Punan Vuhang of trying to mislead them and more tension arose. Not knowing what to do, they had to part ways. Nyinyang told the soldiers that the Punan Vuhang were simply an ignorant people and did not know anything. He asked them not to shoot the Punan Vuhang in the forest. The soldiers were reminded that the Punan Vuhang only wore loincloths, were accompanied by dogs, and were armed only with spears or blowpipes. The Gurkhas then went on their own by tracing their maps.

Later encounters with white soldiers were rather hilarious as Naro recalled, because the Punan Vuhang thought they had met ghosts. Not long after the encounter with the Gurkhas, they came across two Kayan men bringing "Tuan" toward the Punan Vuhang. Not knowing what "tuan" meant, the Punan Vuhang thought they were *otu* – ghosts or spirits. The "tuan" were, in fact, white British soldiers who had requested to camp near the Punan Vuhang. The people did not want the soldiers to camp near their campsite for fear that their children would be traumatized by the "spirits." The men then went to check on the white soldiers and thought they saw spirits that resembled the *otu pahkavoh*—the killing spirits, for the white men had features similar to the *otu pahkavoh* spirits—pale features, yellow hair and hairy bodies, and seemed to have no eyes due to their eyes being blue. For the Punan Vuhang, the eyes of human beings were always either black or deep brown.

The following day, two hunters came across tents that looked like the nests of wild boar. The green camouflaged canvas tents seemed like fresh and dried leaves that covered wild boar nests. They thought that the tents were the dwelling places for the spirits. The idea was "proven" when they saw, emerging from a tent, a soldier who was bigger and taller than those they had seen before. They thought that this soldier had to be a real spirit as the *otu pahkavoh* were also tall and big.

Following these initial encounters, the Punan Vuhang became familiar with the British soldiers and they were treated well and given food. The soldiers offered to protect the Punan Vuhang from the Indonesian army and asked the Punan to construct a helicopter

[1]Through later communication they found that the place that the Gurkhas had wanted to go was actually very near the Punan Vuhang camp.

landing pad.[1] Nyinyang agreed on condition that they would be given whatever they requested from the soldiers and that their advice would be heeded. The older men thought that staying with the soldiers was not a good idea as the helicopters would reveal the location of the soldiers. If the Indonesian forces attacked the soldiers, they would also be attacked.

Nyinyang argued that it would be beneficial to stay with the British as they had promised to give them food and various provisions. He reasoned that Confrontation had prevented traders from traveling and they would then have to endure scarcity similar to the times they had experienced during the Second World War. He said if they were attacked, he would sacrifice himself for the benefit of the people. Persuaded by Nyinyang's argument, the community agreed to stay with the soldiers. On the following day, the Punan Vuhang helped the soldiers cut the trees and clear the ground for the helicopter landing pad. They were amused to see the soldiers awkwardly handling their knives to chop the trees and offered to help. In no time they cleared the land with their axes.

The arrival of the helicopter was another hilarious and memorable experience.[2] The soldiers informed them that the helicopter would be arriving the next day to deliver goods. On the next day, the people gathered and waited for the big event—each individual wanting to be the first person to meet the flying object. After a whole day's wait, they were then told that the helicopter could not come. The Punan Vuhang felt cheated and had never felt so stupid in their lives. They complained how was it possible to know whether the helicopter could come or not by merely listening to the "dit-taa-dit-taa" Morse code transmitting instrument. The captain of the platoon however assured them that the helicopter would come the next day. Early at dawn, the young men went to gather sago shoots for food, expecting to wait foolishly for another whole day. By daylight everybody was waiting for the plane again.

At noon, the army sent up a big hot air balloon to indicate their location. As the balloon hovered in the air, the people marveled at the sight. Shortly after, they heard the roar of the helicopter which was to be their first close encounter with a soon-to-be familiar event. Naro recounted the conversation among the Punan Vuhang who thought the flying object looked like a huge helmeted hornbill with propellers on its head roaring at them. The wind produced by the propelling force was so strong that they had to hold their mouths for fear their voices would be blown away. A further sight surprised them. Nobody had thought there would be human beings inside the plane and were extremely surprised to see soldiers emerging from the helicopter to distribute supplies to the soldiers on the ground. The

[1] This arrangement was of mutual benefit. If the Indonesian soldiers were to enter Sarawak, the Punan Vuhang, being forest "wanderers," would spot the intruders first. The soldiers, therefore, did not have to patrol so thoroughly. On the part of the Punan Vuhang, the protection by the soldiers was an important security measure. This arrangement suited the British and Gurkha strategy as they had "put great stress on mobility, constantly patrolling the remote jungle paths and harrying intruders whenever they found them" (Mackie 1974:211).

[2] The use of helicopters was a major success in containing Indonesian incursions. Soldiers could be dropped behind enemy insurgents to cut off their retreat to the border. The increased availability of helicopters for support services was crucial in the psychological warfare of winning the "hearts and minds" of the people dwelling along the frontier. The support from these people was crucial as one of the Indonesian strategies was to mobilize them to provide material support to the Indonesian incursions (Mackie 1974:211-212).

helicopter delivered the food rations that included one gunny of sugar, half a gunny of salt and a tin of tobacco. After the helicopter had left, the excitement continued with the food distribution and Nyinyang reiterated his argument to stay with the army. After a week, more supplies of food rations were delivered by parachutes dropped from the helicopter. The parachutes were a marvelous sight as they floated down through the air.[1] The Punan Vuhang felt staying with the British soldiers was like a carnival with plentiful sweet and tasty food, and the fun of seeing the helicopters landing and the parachutes dropping from the sky.

The jovial atmosphere was dampened, however, with the death of a kinsman and the need for the Punan Vuhang to leave the death site. The army followed them and eventually did so for at least eleven sites until the end of the Confrontation. In most campsites, small sites were cleared for dropping parachutes. In one site, at Laput Lahang, the army used bombs to blow up the trees to clear the land. The explosions were terrifying, yet provided a fascinating sight as the trees were blown to pieces. One day while camping at this site of Laput Lahang, Indonesian planes flew toward the camp as the Punan Vuhang were having their daily game of football (soccer) with the soldiers. The Punan Vuhang were told to dive into the river if bombing occurred. Fortunately the planes turned out to be on a reconnaissance mission and caused no harm. The people and the army then left the site to avoid an Indonesian attack.

After a long period of up to a year, Tom Harrisson, the famous Sarawak Museum curator, visited the people in 1965 and wrote two articles about them (1965a, 1965b). He suggested the Punan Vuhang work as informants to inform of Indonesian incursions. The pay for each man was $150 per week and the Punan Vuhang had never seen so much money before. Eventually, however, they preferred trade goods as the money had no value to them. They then stayed in a camp called Padang Lalik for six months. It was at this camp that drum after drum of kerosene was flown in as fuel for the helicopters. It was also the first time that the Punan Vuhang used cigarette lighters fueled with kerosene and found them to be very convenient.

Toward the end of their six months' stay at the camp, two Malay policemen came to announce peace and the incorporation of Sarawak into Malaysia that had occurred earlier on 16th September 1963. Informants thought this event was meaningless to them until the subject of the Malaysian government's assistance was brought up. It would be more than that given by the British. The aid was, however, based on the condition that they stopped being nomads, settled permanently, and started farming. The British captain arranged for Ulok Imang to bring in food crop seeds for the Punan Vuhang to cultivate. An *Adet Bungan* teacher was also brought along to teach the Punan Vuhang the *Bungan* religion so that when they returned to the Kajang, they would not be affected by unfavorable auguries. The people, however, rejected *Bungan* because it was an alien religion of Kenyah origin and they did not want to abandon their own belief system which was regulated by auguries. The seedlings brought to them by Ulok Imang were instead planted by the soldiers to show them the benefits of cultivation. However, having had a continuous ample supply of food from the army, the Punan Vuhang had no interest in the hard labor of cultivation.

[1] From this observation of the parachutes, anything that resembles the chute is referred to as "Parachute Branded."

As Confrontation ended, there was one event that showed the Punan Vuhang's concern for their dogs. A soldier from a new platoon shot one of their dogs for biting his camera case. The Punan Vuhang were angry over the dog's death because they treated dogs like their children. They demanded to be separated from the British but requested the Gurkhas to accompany them as the Gurkhas had never posed any problem to the Punan Vuhang. Later, New Zealander Maori soldiers temporarily replaced the Gurkhas. The Punan Vuhang were amazed with the Maoris' ability to sniff the scent of animals. While hunting with the Punan Vuhang, they could sniff the type of wild boar and determine whether it was fat or thin. Towards the end of Confrontation, the Gurkhas did not move around with the Punan Vuhang anymore. However, one Punan Vuhang band that had become dependent on the soldiers later rejoined the Gurkhas.

The end of Confrontation was signified by the Lahanan trader Ulok Imang visiting the Punan Vuhang to ask them to deliver a peace letter to his brother, Kesing, in Kalimantan. The letter invited Indonesian tribal chiefs to come over to Sarawak to perform a peace-making ceremony. Ulok's brother, Kesing, then led Kalimantan's regional chiefs for a rendezvous with their counterparts from Sarawak. Accompanied by Sarawak government officials, they camped near the Punan Vuhang and held a peace-making ceremony to renew the harmony that had been disrupted by the war. The war had caused people who were related to kill each other and the ceremony helped dissolve any hostility remaining among them. Following that, they proceeded to Belaga for further ceremonies. With the end of Confrontation in 1966, the British packed up and left the Punan Vuhang to live by themselves.

Chronological Development of the Adoption of Cultivation

The end of Indonesian-Malaysian Confrontation in 1966 brought peace to the headwater regions, and Kayan and Lahanan traders began to come back to the Punan Vuhang area to trade. The influential trader who had a close relationship with the Punan Vuhang, Ulok Imang (commonly known as Taman Bulan, "Bulan's father"), requested that the community settle in one location. This request was so that traders could have an easier journey. The frequent movement of the nomadic people into the far distant headwaters had posed great difficulty for traders to meet them. A laden boat and foot journey from the main Balui River into Punan territory would take a few weeks. Further traveling into the headwaters, made worse by harsh traveling conditions, would require several more weeks before one could reach a Punan camp. The Punan Vuhang were then resided at the headwaters of the Linau River. This was the portion of the Linau that had many rapids in its downriver area. Visitors going upriver would have to drag their boats through these rapids. At long stretches of impassable rapids, they had to carry their goods and walk for several days and occasionally had to cross mountain ranges before reaching a Punan Vuhang camp. The idea of the Punan Vuhang community settling at a distant downriver location would therefore be a great convenience to the traders.[1]

[1] See Jayl Langub for a brief description of Penan response to a sedentary life in Sarawak (1974:295-301; 1996:108-116). Sellato's review (1994) on sedenterization is mentioned in the introductory chapter, and then analyzed in accordance to the Punan Vuhang experience in the concluding chapter.

The Punan Vuhang initially refused to accept the idea of settling. They rationalized that settlements in downriver territory were unfavorable to trading as little rattan was available there. Ulok Imang then suggested that the nomadic people move to the Kajang basin where rattan was abundant. The Kajang valley was also a very fertile area, thus providing a good environment for cultivation. Besides, traveling into the Kajang River from the Linau, the main waterway, only required a few hours' walk across a mountain range. Once inside the Kajang, traveling on the river was easy as there were no difficult rapids. The elders were against the idea but the younger members were adamant in adopting the new life. For the sake of communal cohesion, the community leader, Negen, decided to go along with the young and persuaded the elders to follow suit.

The Punan Vuhang then agreed to move into the Kajang valley and adopt cultivation. However, Ulok Imang foresaw that in adopting cultivation the people would face great difficulties. He believed that two factors in the Punan Vuhang belief system would pose serious problems to the adoption of cultivation and a sedentary lifestyle. First, the augury system would disrupt the cultivation process should unfavorable auguries occur.[1] Second, the necessity to flee an area when there was a death would force the community to abandon their cultivated crops. These two factors were highly incompatible with cultivation, which required consistent crop maintenance and a sedentary lifestyle. Consequently, he urged the Punan Vuhang to adopt *Adet Bungan*. He assured them that *Adet Bungan* only suppressed the negative effects of omens and death observances. They could continue practicing the *nyangen* and *nalau* rituals. In fact, the *nalau* healing ritual was compatible with *Adet Bungan*. Eventually, the Punan Vuhang accepted the new religion and then moved into the Kajang valley to begin farming.

When they crossed over to the Kajang valley, they immediately settled at Laput Bukor. Although they had always been hunter-gatherers, the community had some idea of rice planting. They had seen people cultivating from their visits to agrarian communities in the Balui River and to their Punan Kihan kinsmen who had earlier adopted cultivation. They knew that farming required long-term settlement to be present for long periods of planting, growing and harvest. Therefore, at Laput Bukor, they constructed stout shelters made from durable materials and then went on to start farming.

In 1968, the nomadic Punan Vuhang for the first time attempted to grow crops. Following the little information they had, they correctly started by slashing the undergrowth, then felling the trees. However, the plot of land for each household was small and they only took a few days to clear the land. When the land was ready for planting, they then realized that they did not have any seeds. They discussed where to get them. The two nearest places were the Lusong Laku Penan settlement down the Linau River, and their Punan Kihan kinsmen then residing at Long Ikang in Kalimantan. Initially, they thought of going to the much nearer Lusong Laku Penan settlement. However, they had no boat to travel down the

[1]For the same reason, all agrarian tribal communities in the Balui River and the Apau Kayan in Kalimantan had abandoned their old belief system to convert to *Adet Bungan*. An augury system, somewhat similar to that of the Punan Vuhang, heavily influenced the belief system. After adopting *Adet Bungan*, their economic condition became much better. For the Punan Vuhang augury system, see Table 12, page 209.

Linau. Despite the greater distance, they decided to walk to their Punan Kihan kinsmen to obtain seeds.

Twenty men, each person representing his own household, made the two weeks' journey to Long Ikang in Kalimantan. After they returned, another nine men followed suit. At Long Ikang, each member obtained about a *gantang* of rice seed. They also brought back banana shoots, sugarcane and tapioca stalks for planting. The community waited for the second group to return, and then they burnt the felled vegetation to prepare for sowing. Looking back, informants realized that they were fortunate to have sown the seeds correctly despite their ignorance of the appropriate time for planting. They laughed at themselves for not knowing that sowing depended on a fixed time in the calendar and that burning should only be done just a few days before sowing. Although the rice seeds sprouted a few days later, an unfortunate incident happened that would badly affect their lives.

A group of Kayan men returning to Kalimantan gave a mistaken impression to the Punan Vuhang about obtaining trade goods. These men had worked in Sarawak for many years, but could not return home due to the Indonesian-Malaysian Confrontation. After a long time working as wage laborers, they had accumulated much money, which they had saved to buy various goods to take back. When the crisis was over, they returned to Kalimantan by way of the Kajang-Kihan route. At the Kajang, they stayed for awhile with the Punan Vuhang. When the Kayan travelers left, the Punan Vuhang thought that they could also obtain many goods if they went to Belaga. Naro, my informant recalled that they did not realize that the Kayan had worked many years to earn wages to purchase the items that they had seen. They thought by merely going to Belaga they could also obtain many goods and have gold dentures made. Most Punan Vuhang men had never even been to the Balui River and the idea aroused great excitement. Subsequently, they left for Belaga. When they returned, instead of bringing back the desired goods, they had contracted a contagious fever and brought it back to the Kajang without seeking any medical treatment.

The Punan Vuhang had no idea of the course of the deadly disease. Halfway back in the Kajang, they met a group of Penan men on a rattan-collecting expedition. They camped together for a night and unwittingly passed the fever to the Penan men. Unaware that they were the cause of the sickness suffered by the Penan men, they continued their return journey. When they returned to Laput Bukor, the fever spread and seven people died from it. These deaths baffled them. Although the conversion to *Adet Bungan* should have averted fleeing the death site, the unusually large number of deaths caused panic and they abandoned the settlement site that they had just established.

By then the rice crop had begun to ripen, and at the same time forest fruits also ripened. The availability of both food sources, instead of bringing joy, brought a dilemma about which food they should harvest first. They felt tempted to collect the fruits, because the fruiting season only occurred once in two years. However, they remembered the difficulty they had had in obtaining the rice seeds from Kalimantan. Therefore, they harvested the paddy to keep some seeds for future cultivation.

The harvesting was soon over as the plots of land were small. Also, the rice yield was very poor due to bad maintenance. Most households could only obtain a *gantang* and a half of grain, from the one *gantang* of paddy seeds planted. Adding to the disappointment, the harvested paddy had not yet ripened and the rice tasted bitter. Then the Punan Vuhang

thought the Kayan must be mad to ask them to cultivate such a bitter food. In their frustration, they had forgotten that they had eaten rice before and found it to be delicious.

The Punan Vuhang wondered whether they had made a grave mistake in adopting cultivation. The poor paddy yield and the terrible taste of their harvested rice was not commensurate with their effort in cultivation. They thought that the many deaths since starting cultivation were a punishment for abandoning their nomadic life, a way of life their ancestors had followed from time immemorial. The whole community thought of reverting back to a nomadic life. All of them strongly felt that they should not go ahead and resume cultivation.

While the people were disillusioned and wanted to give up farming, Negen, the leader, recognized as possessing wisdom and an uncanny ability to decide correctly, thought otherwise. He maintained that since the community had already decided to adopt cultivation, they had to be persistent because a first experience in any venture was seldom successful. He reasoned that their kinsmen, the Punan Kihan, had successfully adopted cultivation. Then, he thought they had no reason to be so foolish as to fail to learn from their mistakes. Besides, Negen believed that their paddy had not yet ripened when they harvested it, as they were familiar with tasty rice that traders had managed to bring with them. He believed that the people would eventually learn the correct way to cultivate. He argued that even if only five people were to survive during the learning process, the five would benefit from cultivation. Based upon his persuasive argument, the community decided to abide with his decision and continue this new form of livelihood.

Negen decided that the new site for cultivation should be farther downstream at Lapo Linga. The settlement at a downstream location would make it easier for traders to visit them. Furthermore, the area there was equally fertile and had an abundance of rattan. Negen went there first with five households while the rest of the community were to follow later. However, because of the abundance of fruit at Laput Galuk, the rest chose to camp there to collect the fruit. Since that year was a minor fruit season, they were worried that only a little fruit could be found elsewhere. Five days later, Negen returned upriver to inform the community of the abundance of fruit at Lapo Linga and subsequently all of them moved to Lapo Linga.

At Lapo Linga, two Kayan, Sapoi and Utok from the Mahakam in Kalimantan, came to stay with them. Sapoi went there to acquire forest products for trading, while Utok was there to learn the art of making blowpipes. The Kayan were an agrarian people and after learning of the Punan Vuhangs' difficulties, the two men taught them the proper methods of planting.

Sapoi and Utok introduced the Punan Vuhang to a cooperative work system that was a prerequisite for shifting cultivation. The system enabled clearance of large tracts of forest land. Heeding their advice, the Punan Vuhang adopted a cooperative system and opened a very large area. After the Punan Vuhang cleared the undergrowth and felled the trees, the Kayan requested that the Punan Vuhang return to Laput Bukor to obtain banana shoots and sugarcane stalks. They advised the Punan to plant these seedlings first before cultivating rice. When the men went to Laput Bukor, they found that most crops had matured. The abundance of fruit gave them confidence that cultivation could provide plentiful food. Furthermore, the fruit season then had not yet ended and the annual wild boar migration was

at its peak. These factors of food abundance convinced them that cultivation, together with the availability of forest fruits and wild boar could provide a much better life than remaining nomads.

After the Punan Vuhang prepared the land and sowed rice, the community again caught a contagious fever that resulted in many deaths. Sapoi returned to Indonesia after helping to teach the Punan Vuhang how to cultivate. Two Punan Vuhang men accompanied him as far as Long Ikang where Sapoi continued his journey. At Long Ikang, the two men caught a fever, now believed to be malaria. They returned despite having the fever and everyone in the community caught the contagious disease. The fever caused people to become very weak. Eventually, the situation worsened and nine people died. Fearing that continued settlement would cause more people to die, the community fled the death site. They decided to break into two bands, hoping that if the fever were to wipe out one group, at least the other might survive. Later, they decided to split into three groups. After a month, all three groups faced a similar worsening situation. Thinking that if all of them were to die, dying together as a community would be better than dying separately, they returned together to the cultivation site at Lapo Linga.

The Punan Vuhang were baffled at the situation as their traditional healing method of performing a *nalau* ritual did not provide any cure. It was a new disease and a spirit phenomenon did not cause it, otherwise the *nalau* healing ritual would have alleviated it. Their conversion to *Adet Bungan* also did not help as they did not have sacrificial items such as pigs, or chickens or eggs to carry out the *Adet Bungan* rituals. The situation continued to worsen. The community decided to split again. One group remained at Lapo Linga while the other camped downriver at Tatang Ilen. The disaster became much worse when the weakened members could not go out to find food. They then felt the need for all capable men to group together so that all of them could help each other collect food.

The community eventually depleted the surrounding areas within Lapo Linga of sago and they then moved inside the Sulen tributary, an area with abundant quality sago. With a bounty of food, their diet and health improved. Some members actually recovered from the fever. As the situation became better, they realized that for a whole year they had not eaten any wild boar. This caused them to yearn for meat and they felt they could no longer continue to live without protein. They remembered that they had stored some lard in the Linau River before they had migrated over to the Kajang. Stronger young men who had recovered walked all the way to the Linau headwaters to retrieve the stored lard. They were certain that the lard kept inside the “derry-can” (jerry-cans abandoned by the British army) would be well preserved despite the long period of storage. Another group of four men went to their kinsmen, the Punan Kihan, to get some lard as they knew that wild boars were abundant there. Both groups returned at about the same time and the lard provided a much needed improved diet. The better food improved their health and the situation increasingly became better.

Over time, rice planted at Lapo Linga began to ripen and they returned there to harvest it. However, because the Punan Vuhang had sown few seeds and had not maintained the crop due to the fever, they only obtained a very poor paddy yield. The community realized that they could not subsist on their harvested rice for long and they decided to move to locations with sago resources. Then they moved up to the mountain

ridge separating the Kajang and the Linau and settled at the headwaters of the Betla'up. They had sufficient sago there, but could not find wild boar. After that, they moved down to the Linau river bank to camp at Ogak Kuhui. Wild boar were available but they could only kill a few because they no longer had hunting dogs. The long period of food scarcity had starved many good hunting dogs. Only four men still owned hunting dogs, which the hunters divided into two groups to make two hunting teams. As the dogs had to rest after two or three days' hunting, the Punan Vuhang could not continuously obtain wild boar. Nonetheless, the availability of some fresh meat and sago further improved their health. The hunting dogs also became more fit and the Punan Vuhang could even hunt deer with the dogs, a feat only achieved by strong dogs.

As the situation increasingly improved, the Punan Vuhang realized that they should begin cultivating again and decided to return to the Kajang. Young men scouted the Kajang valley searching for a location with abundant sago resources. They found plentiful sago at Tatang Takjem and the whole community moved back to the Kajang. After awhile, they moved upstream to Laput Lidem. When settling there, Ngang, the headman of their kinsmen, the Punan Kihan, came to visit them. Ngang advised them to settle down permanently and not to move around again, as cultivation required a sedentary life. Ngang's comments annoyed the Punan Vuhang because they had already understood this necessity. Even so, the Punan Vuhang heeded his advice to select a site favorable for permanent settlement. After deliberation, they decided that the location of their present settlement near Laput Lidem was an ideal spot. It was a good location because it had routes leading to major tributaries inside the Kajang hinterland (see Map 9, page 227). Also, it was quite near downriver areas which enabled traders to travel to their settlement more easily. Sites farther downstream would have been good for trading but land there was less fertile and had limited choices of good hunting grounds.

Permanent Settlement at Laput Lidem (Long Lidem)

After agreeing upon the place for a permanent settlement at Laput Lidem, the people cleared the land and felled the huge trees. They constructed the frames and main structures for the shelters within the same day. During the evening, the men decided on a durable roof and chose the leaves of *laun silat* (*Licuala valida* Becc.) as roofing material. For the whole of the following few days, each household made at least four trips to collect the leaves. Four men decided to construct a different type of roof for their houses. They used *kepang* wood, a type of split planks one yard long, overlaid one on top of the other to make a stout and durable roof. The use of *laun vireh* and split bamboo, instead of small trunks or tree bark, made a strong floor for the shelters. Within five days the Punan Vuhang completed their houses, which was their first attempt at constructing a permanent settlement. This was a major change in their style of housing. They had never felled huge trees to make a large clearing for a settlement site nor taken more than a day to construct the roofs of their shelters.

While the men were busy building the shelters, the crops planted the previous year at Lapo Linga began to yield. Banana, tapioca and sugarcane provided a food supply that they supplemented with sago. A month after settling down, the migrating wild boar season began. As usual, the wild boar first arrived from the Bahau River and its tributary of the

Bangan. The community then went to the watershed between the Bangan and the Lumunung (a tributary of the Kajang) and stayed at Lapo Avan. For two weeks they did nothing but hunt wild boar, process lard and occasionally process sago for carbohydrate. When the wild boar migration moved further upriver, the Punan Vuhang returned to Laput Lidem where they could go on daily hunting trips. During the height of the migration, a hunter could kill a wild boar within a short distance from the settlement. Most hunters could obtain up to half a dozen fat wild boar in a single day. Out of sheer abundance, the hunters simply abandoned the flesh of the wild boar carcasses and carried back only the thick slabs of fat for lard processing. While the men went hunting, the women processed the lard and stored it in containers in a small river across from the settlement. The small river became the common place for storing lard and they simply called the stream *Tubu Lanye*, 'buried lard.'

The availability of cultivated food from their previous planting and the peak of the wild boar migration provided them with abundant food. This, according to the Punan Vuhang, was *angkun mongoh*, 'real food.' They began to gain weight after the former lack of protein-based food which had lasted for several months, and before that, they had subsisted on only a very few small animals such as squirrels and tree shrews. Only three years after first trying to adopt cultivation did the Punan Vuhang finally get enough to eat.

After a few months, the situation vastly improved. It was then, in June 1971, that D.B. Ellis led the research team of the Malayan Nature Society and the Sarawak Museum to visit the Punan Vuhang (Ellis et al. 1972; 1975). With the visit of the research team, the Punan Vuhang became known as a people who had become sedentary. As the community had now become permanently settled, the government authorities began to focus on them. Not long afterwards, the Statistics Department took a census. The Statistics Department briefed them that they held the census in preparation for an impending election. After the election, the newly elected Member of the Sarawak Legislative Council, Nyipa Bato, visited the Punan Vuhang with the District Officer. It was the first high-level government visit since Sarawak had been incorporated into Malaysia in 1963.

The Punan Vuhang had heard about this new government. Its representative, during the end of the Indonesian-Malaysian Confrontation, had promised them that the new government would provide many materials if they settled permanently and adopted agriculture. They also had promised that the provisions would be much greater than those given by the British Forces who had stayed with the Punan Vuhang. It had been several years since the government authorities had visited them. The community elders remembered the promise and requested projects.

The government promptly responded to the request. A month later, a military helicopter brought two hundred sheets of corrugated zinc for their roofs. It was an advance delivery and the officials requested that the Punan Vuhang not use them then until later deliveries had proven sufficient for all households. However, when the second delivery came two weeks later, the zinc was still not enough for everyone. Then Nyipa Bato, the Legislative Council Member of Kayan origin who had come with the helicopter, requested them to construct their houses in a longhouse style. The Punan Vuhang refused, emphasizing that their hunting dogs would fight if their owners stayed together in such close proximity. Nyipa argued that the dogs would eventually get used to such a situation. Besides, he reasoned, they could visit other households during rainy weather more easily as the extended common

corridor linking all apartments would shelter them from the rain. This, argued Nyipa, was a better option than individual shelters separated from one another.

The Punan Vuhang were convinced by Nyipa's argument and decided to let him choose for them the structure of the longhouse. Later, the government sent more housing materials of zinc and nails, and tools of saws and hammers. It commissioned a Kayan carpenter from Uma Belor both to build and to teach the Punan Vuhang the proper method of house building. When the longhouse was completed, for the first time, the Punan Vuhang stayed in a permanently built house in a longhouse style. After the completion of the longhouse, the government authorities visited them with decreasing frequency.

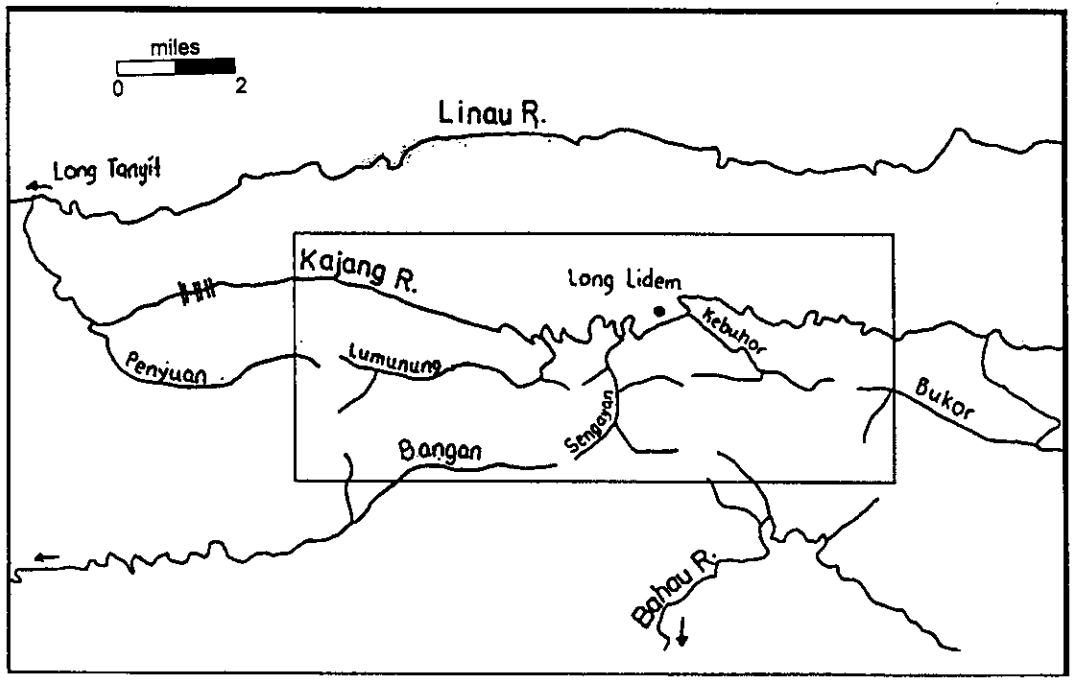
Adet Bungan and Christianity

The community adopted *Adet Bungan* when Ulok Imang persuaded them to settle permanently and take up rice cultivation. *Adet Bungan* was founded by a Kenyah man named Jok Apui of the Apau Kayan in Kalimantan. According to commonly told stories, Jok Apui had been a poor commoner who had always had bad luck and poor harvests. Because of that he was ostracized by his community. One night he dreamed of a female deity named Bungan Malan who appeared to him and asked him to follow her ways. The deity assured Jok Apui that she would protect him from unfavorable auguries. When he needed favors from her, he merely had to sacrifice a few chicken eggs and invoke her help. When he awoke the next morning, he found a handful of rice seeds in his clenched fist. The appearance of the seeds assured him that the dream was a vision from the deity. He planted the seeds and from then on ignored all forms of auguries. His community thought he had gone crazy for disobeying the auguries but, as assured by his dream, he did not appear to suffer from any mishap. During the paddy ripening season, his paddy yield was the best among all the people, a marvel considering his meager yield over the previous years.

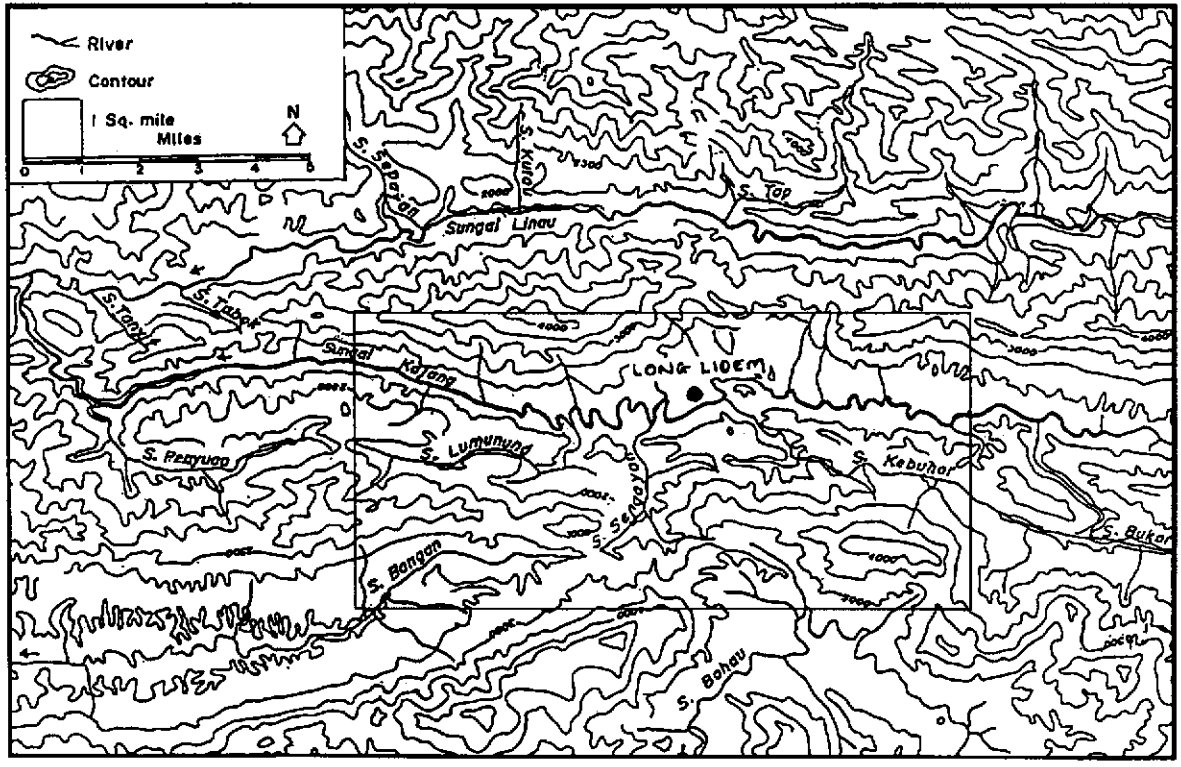
The longhouse headman realized something special had been bestowed upon Jok Apui and asked for an explanation. After listening to Jok Apui, the headman accepted the new belief. Following this conversion, both of them became prosperous in all their undertakings as they did not have to heed unfavorable auguries anymore. Eventually everyone in the community was convinced of the benefits and accepted *Adet Bungan*.

Jok Apui then dreamed that Bungan Malan requested him to propagate the new belief. He complied and every community in the Apau Kayan accepted *Adet Bungan*. Eventually, he came over to Sarawak in the early 1940s to proselytize Bungan among the people of the Balui. All the communities accepted the new belief as it freed them from the cumbersome old system which required that they observe auguries and furnish many sacrificial materials to conduct rituals. Over the years, the *Bungan* practitioners, instead of only using chicken eggs as requested by Bungan Malan, also sacrificed pigs and chickens.[1]

[1] See also Rousseau (1998:22-23) and Lake' Baling (2002:86-91) for more detailed accounts of *Adet Bungan*.



Map 9: Sedentary Punan Vuhang Regular Exploitation Grounds:
The Kajang Basin



Map 10: Topography of Sedentary Punan Vuhang Regular Exploitation Grounds:
The Kajang Basin

Because this belief enabled practitioners to ignore unfavorable auguries, the Lahanan trader, Ulok Imang requested the Punan Vuhang to adopt *Adet Bungan* so that they could cultivate without any spiritual hindrances. Initially, the Punan Vuhang did not want to adopt this new belief system as it had originated with the Kenyah. Eventually, however, they became quite keen as it only rejected the difficult-to-practice augury beliefs, while allowing them to retain the much favored *nyangen* and *nalau* healing ceremonies. Ulok Imang then brought religious teachers (*dayong*) to teach the Punan Vuhang how to perform the necessary rituals and chants to make requests to Bungan Malan. After teaching the Punan Vuhang shamans, the *dayong* returned to the Balui. Following that, the Punan Vuhang adopted rice faming.

Not long after that, the Punan Vuhang were exposed to Christianity from Kenyah travelers returning to Kalimantan. The time of peace that resulted from the end of the Indonesian-Malaysian Confrontation in 1966 allowed many Kenyah men who had been working in Sarawak to return to Indonesia. They used the traditional Kajang-Kihan route to go back to their longhouses on the Iwan River. Their easy lifestyle with no fear of auguries attracted the Punan Vuhang to the new religion of Christianity. Nonetheless, they did not immediately adopt the new religion from the travelers.

In early 1970, Pendeta Bawe, a Kenyah pastor, like other travelers, was on his way back to Kalimantan. He did not know the return route and requested the Punan Vuhang to guide him back. At that particular period, the people were experiencing an unfavorable augury and could not fulfill his request. Pendeta Bawe then told them about Christianity and asked three young men to convert to the religion so that they would not be affected by the negative consequences of unfavorable auguries. The three men adopted Christianity and led the pastor back to Indonesia. When they returned, no mishap happened to them and the community then converted to the new religion.

D.B. Ellis recorded the same reason for the conversion although his story of the actual process differs from what informants told me.

> Their knowledge of Bunganism was limited, though most of the Busang [Vuhang] "believed" in it, and during the time of increased sickness and death in the Linau and Kajang valleys they appealed to the Kayans for help as it must be their ignorance of the new God which was causing their troubles. Perhaps they should re-adopt their belief in bird signs. They sensed that a fundamental mistake was causing their misfortune. But the Kayans didn't come and the deaths continued. . . . Ninyang sent a party of 7 men to Long Klawit, Iwan river (Kalimantan) to meet the priest and discuss Christianity with him and the converted Kenyahs . . . . On their return, though impressed, Ninyang himself decided to visit Belaga and consult the Kenyah priest before accepting new beliefs. He was instructed for some two weeks by the Priest, a man who had spent 6 years at the Borneo Evangelical Mission at Lawas, and then advised to return to his people. Ninyang was converted and thereafter the Busang have followed Christianity (Ellis 1972a:250).[1]

[1] The difference between my field data and Ellis's account is that Ninyang or Jungeu was the leader who sent the young men to learn the religion. Similar to his report, Nyinyang did go to Belaga, but differing from Ellis, my data suggest that he went there to learn more of the new religion instead of acquiring knowledge for conversion. As Pendeta Bawe was a pastor of the Protestant denomination, Nyinyang approached the Borneo Evangelical Mission in Belaga for instruction.

The new belief freed them from auguries, but unlike *Adet Bungan*, also required that they abandon their dependence on spirits and *Nyangen* and the *Nalau* healing rituals. In place of the *nyangen* ritual which offered praise to the spirits, the people now sing hymns and Christian songs on Sunday mornings and afternoons, and Wednesday and Saturday nights. During the meetings, one of the deacons (*pelayan*) leads the community in singing, accompanied by guitars played by young people. The head deacon (*ketua pelayan*) usually gives the sermon. For healing, instead of the shaman performing the *nalau* healing ritual, the church leaders (*pelayan*) converge at the house of the sick to pray.

Sayun, the *ketua pelayan,* attended a layman education course at the Belaga Bible School to learn the Christian faith for several weeks in the late 1980s. As the most knowledgeable person on this religion in the community, he is considered the pillar of the Christian community. As Nyinyang, the headman, ages, Sayun is widely favored to become the new leader but he intends to remain as head deacon, preferring that his second cousin, Naro Pua, assume the position of headman.

The Punan Vuhang follow the Protestant sub-denomination of the Borneo Evangelical Mission, commonly known by its local abbreviation, S.I.B. for *Sidang Injil Borneo*. This sub-denomination is the dominant Christian movement in the headwaters of Borneo, including the Balui River.

Church leaders from Belaga rarely visit the Punan Vuhang due to the great distance. In the mid-1980s, a Penan pastor from the Baram River accompanied by his wife became the pastor of the community for several years.[1] The people took care of the couple's needs by taking turns providing food and firewood. Since their return, no pastor has been stationed there. The pastor based in Lusong Laku occasionally makes the two day journey to visit and teach. There was a church building that had an apartment for a pastor's family. The building was built in the mid-1980s by volunteers from a Data Kakus Badeng community then living at Long Dungan, downriver of Belaga town. When the Punan Vuhang built a new longhouse, they rebuilt a church building close to the present longhouse.

There are six deacons (*pelayan*), who are elected every three years. They usually serve the community by leading worship, reading the Bible and giving sermons. Among them are three men who know how to read and they are the main preachers for the sermons. The position of deacon gives these men enhanced status as they are the only people who regularly stand in front of the community to give advice and admonishment. Whether the members of the community listen, or follow the advice, is a different issue.

An important figure among these deacons is the treasurer who keeps the collection from the weekly offerings. The offerings usually consist of money or tradable items. Members usually give rattan, woven *ajat* baskets (worth RM10.00 for the *ajat kalong* and RM4.00 for the *ajat kawang*) or the *oii* shoulder straps that are worth 50 cents. From the collection of the offerings and occasional other fund raising, the community managed to buy an electric power

[1] The pastor, Dariu Oho, now lives in Ba Keramok, Upper Baram, close to the Kelabit Longhouse community of Long Lellang.

generator and a television. Due to non-reception of television broadcasts in the distant forest, they could not use the television.[1]

Besides receiving other benefits from the new religion, the community believes that Christianity broke the curse that caused many of them to become barren. The people believe that the curse was a result of the Punan Vuhang failure to fulfill their promise to spy for the Indonesian army during the Indonesian-Malaysian Confrontation (see page 215). As a result of breaking this promise, the people believed that they were cursed and the community would eventually be obliterated. A few years later, they felt the consequence when a series of deaths (suspected later to be malaria) hit them. In addition, very few children were born and many married couples were barren. Of the community members aged between 15 and 25, only nine children were born to six women who did not seem to be affected by the curse. In the mid-1980s, the Belaga district pastor came to the Punan Vuhang and he prayed to lift the curse. The Punan Vuhang believed that as a result of this prayer, new marriages were not affected by the curse and children were born to the community, although some couples still remain childless (see page 233).

Conclusion

With the events of the Indonesian-Malaysian Confrontation inducing them to settle down and to take up cultivation, the Punan Vuhang were persuaded to convert to *Adet Bungan* to negate effects of bad auguries that might otherwise have disrupted their daily agricultural activities. The conversion was seen as necessary as rice cultivation tasks need to follow a fixed schedule carried out within short time frames. They believed that negative auguries could disrupt rice growth and cause delays in some cultivating activities that would be disastrous. For instance, a delay in burning felled vegetation and then rain would result in a bad burn, producing few nutrients and limited time for crop growth. Further, a delay in harvesting would expose the crop to pest destruction. Consequently, informants stressed that their conversion enabled them to settle and cultivate rice. However, incidents of mass death and the inability to use Bungan rituals to avoid death led them to convert to Christianity. Evangelical Christianity, however, forbids all other forms of religious practice, and that means that the Punan Vuhang may no longer practice their healing and festive rituals that involved the spirits of their former cosmos.

[1] After I left the fieldsite, they bought a video-tape recorder. Because it is difficult to obtain Christian video tapes, the people mainly played recordings of wrestling matches, tapes which are easily available in Belaga or Kapit.

Chapter Eight: Demography, Household, Marriage and Kinship

The previous chapter discussed the Punan Vuhang process of settling down and we shall now look into their present demography, settlement layout, household composition, and patterns of marriage and kinship. I shall begin by looking at household composition based on data from a survey conducted during my fieldwork and updated in 1995 prior to leaving the field. The description looks into marriage, household formation, the birth of new household members, and, finally, marital separation which is a common phenomenon among the Punan Vuhang. During fieldwork, none of these events took place. Instead, my description is based on interviews. The chapter concludes with an account of the kinship system.

During the period of initial settlement in Long Lidem in 1971, the Punan Vuhang were divided into twenty households. Over a 20 year period, thirty-two persons died. The numbers of households declined to sixteen in 1995, two of those with only one member each. Through the years, the longhouse structure started to decline. In 1992, the part of the longhouse built on wetter ground collapsed. The Punan Vuhang requested assistance from the government for building materials. Not long after, several flights of helicopters delivered plywood, corrugated zinc, nails and paint, and hammers, chisels and a chainsaw. In the latter part of 1993, the community built a new longhouse at a site slightly downriver from the old site.

Longhouse Demography

As of January 1995, the population of the community consists of a total of 70 persons, 47 male and 23 female. There was clearly a marked disparity between males and females, with 67.1% male, and 32.9% female. The imbalance is particularly evident among the old and children. Of the members over 40 years old, there are 21 men and only 5 women. For members aged below 20, there are 19 boys and 12 girls. Only the age groups of 20 – 29 and 30 – 39 seem balanced with both genders having equal numbers of 11.

This uneven gender ratio of men to women has a great impact on marriage and household makeup. Among the 15 men who are no longer married, there are 5 divorcees and 10 widowers. In comparison, there are only 3 divorced women and no widow. Of the 3 divorced women, one is too old to be married, one is mentally unstable, and the third has a fierce character that drives men away. She has been divorced twice. Of the 15 men mentioned above, 3 are too old to be married and one widower is in courtship. The remaining 11 men will not have the chance of ever becoming married to a woman in their community, unless a divorce occurs among the married women, thus providing them a potential mate.

The future seems equally bleak for the growing boys to marry within the community and have their own household. There are 7 girls that will be available for 15 boys when they gain maturity. This means that half of them will remain bachelors unless the women bear more girls. However, of the youngest 11 children in the age category of below 10 years old, there are only three girls, so that the prospects of future marriage within the community do not seem favorable for the boys.

Another striking feature of Punan Vuhang demography is the high proportion of childless members. Out of the 13 married couples, 6 are childless. Of the total of 28 men who are or were once married, 13 are without children. Of the 16 women, 6 are childless.

Because of the disparate male-female ratio, most households have very few female members. There are four households with one woman as the sole female member. There is one household (HH 7) that contains only a husband and wife (see section on household composition below). Two households have a woman living with two male members. In HH 12, Bom lives with her husband and his brother, and in HH 13, Nguwek lives with her husband and her nephew. In HH 2, Ella lives with her spouse and two sons, and her husband's two kinsmen, making 5 male members. In HH 6, Naut stays with 6 men who include her husband, her brother, 3 nephews and one grandnephew.

There are 6 households with two women living among the men. Of these, 3 households have an equal ratio of 2 male and 2 female members. HH 3 contains Vihing and her husband, her niece and her father. Olan in HH 8 lives with her husband and son together with an adopted daughter. HH 10 is the nuclear family of So'ing and her husband with a boy and a girl. HH 9 has 4 men staying with two sisters-in-law. HH 14 has a mother and daughter sharing meals with 5 male members, among whom, one sleeps in his own apartment. One household, HH 1, has 7 male members staying with a mother and daughter. The largest number of female members in a household is 3 and there are 2 such households. HH 4 has a woman staying with her small girls and two sons. HH 5 comprises a grandmother, a mother and a granddaughter staying with 4 male members.

Table 13: Population of Long Lidem according to Age and Gender, January 1995

Age Category	Female	Male	Total	
			No.	%
70 >	0	3	3	4.3
60 – 69	1	0	1	1.4
50 – 59	1	9	10	14.3
40 – 49	3	9	12	17.1
30 – 39	6	7	13	18.6
20 – 29	5	4	9	12.9
10 – 19	4	7	11	15.7
< 9	3	8	11	15.7
Total	23	47	70	100

Figure 18: Population Profile of Long Lidem according to Age and Gender, January 1995

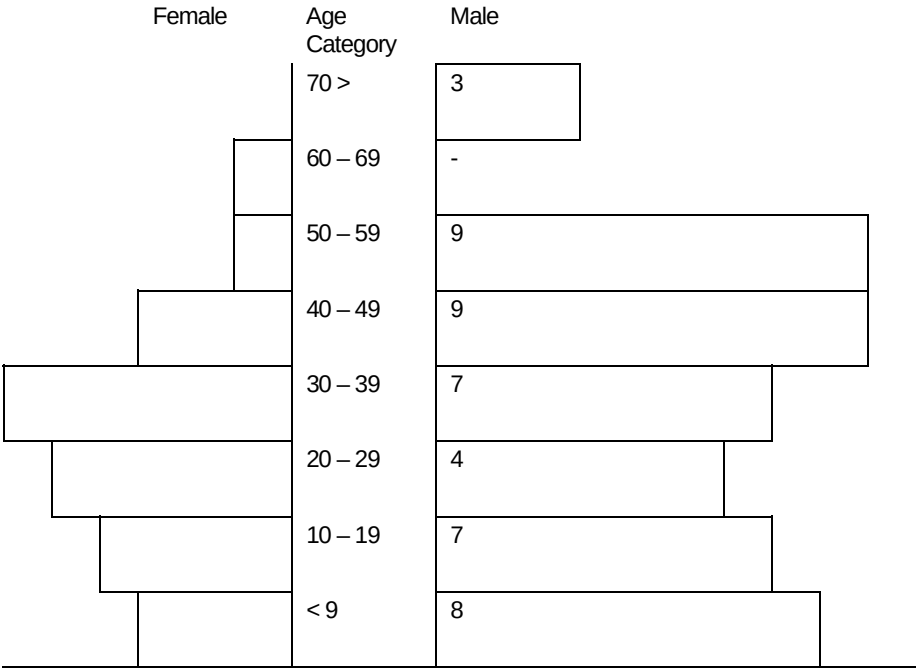
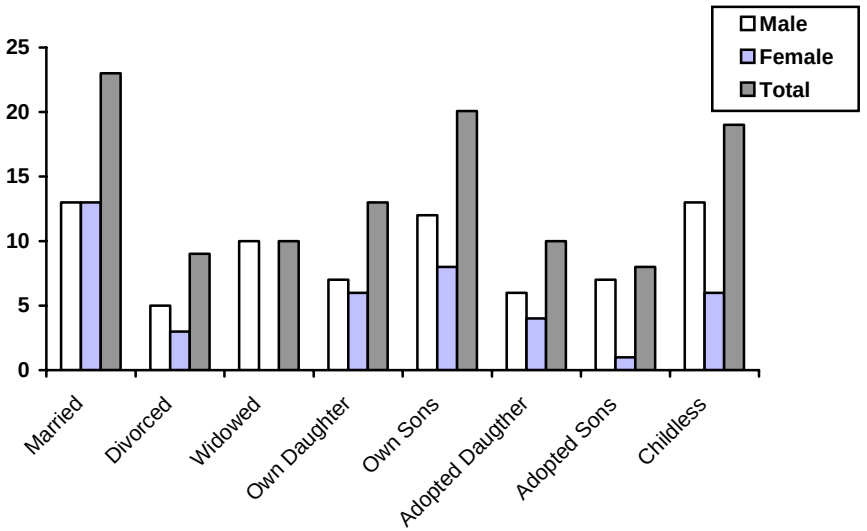


Table 14: Married Population of Long Lidem according to Gender, Current Marital Status, Parenthood and Child Adoption, 1995

Status	Male	Female	Total
Married	13	13	26
Divorced	5	3	8
Widowed	10	0	10
With Daughters	7	6	13
With Sons	12	8	20
With Adopted Daughter	6	4	10
With Adopted Son	7	1	8
Childless	13	6	19

Figure 19: Population Profile of Long Lidem according to Gender, Marital Status, Parenthood and Child Adoption, 1995



Longhouse Layout

With the adoption of a longhouse settlement, the Punan Vuhang have adapted to living in apartments attached to each other through a communal corridor (*so'ar*). In the new longhouse that was constructed in 1993, there are two rows of apartments and three individual houses (see Figure 20). During the initial planning there were three opinions concerning the longhouse layout. The main group, Households 5 to 14, wanted to follow the practice of longhouse communities by first building the kitchen compartments while accumulating materials for later construction of the main apartments comprising the living rooms. The second group, Households 1 to 4, felt that the community, after building their kitchens, would not have the ability to construct separate living rooms. Consequently, the second group of households constructed their apartments following the alignment of the first group's kitchens. Agreeing with the first group, the head of Household 12 decided to build his kitchen and living room in a single compartment, following the alignment of the main apartments. To him, this space is sufficient for a household of only three persons, the household head, his wife and her sister's son. When I left the field site in 1995, there was no sign of any accumulation of materials to build the main apartment.

As for the others: In Household 13, Tawing lives with his mother's sister's two sons, whose brother is head of Household 6. Originally, this small room was built by Kudun, head of Household No. 14, for the late Langin Nguwei. Kudun was related to Langin through his adoption of Langin's daughter, Nojab.[1] During Langin's illness, Kudun built the room so that Nojab, who lives with him, could take better care of her father. When Langin died in the room,

[1] When Langin divorced Nojab's mother, Ngarik, Nojab lived with her mother. When Kudun married her mother, he adopted Nojab.

it became vacant. Tawing, a widower who is Kudun's wife's mother's mother's brother's son, came to stay in the room. Then the two brothers mentioned above came to join him. In Household No. 15, Luhat Tehin, an old man, lives with Nanyab. This apartment was a temporary shelter for Kudun's household while he was constructing the main apartment in the longhouse. In the last household (No. 16), Nahon, a widower, lives by himself. As an old man, he has no intention of building a durable and spacious longhouse apartment.

Figure 21 shows the principal kinship and marriage relations that existed between the different households, including household heads and their spouses, making up the village in 1995. Household numbers coincide with those shown in Figure 20 (Longhouse settlement layout).

Household Composition

The composition of Punan Vuhang households is complex. Here, I define as being household as composed of those persons who eat meals together on a daily basis, whether they reside in the same apartment or not. A household is therefore a commensal unit. With the exception of one nuclear family (HH 10), the composition of most households is varied and in many, the relationships existing between household members are complex. This can be seen from the household diagrams (Figure 21) and from Table 15 which shows household composition.

How these complex living arrangements have actually come about is beyond the scope of this study. In most cases, however, it is related to the high rate of mortality the Punan Vuhang experienced during the process of settling down, particularly the death of thirty-two persons that occurred during this period, as described in the previous chapter. In seven cases, persons who once belonged to separate households have joined together to form new composite households as a result of death. Indeed, two households (HH15 and 16) have been reduced to a single member each as a result of death. A high rate of divorce also contributed to the complex household structure, as is seen in the section below on temporary separation and divorce (see page 258).

Six households (HH 7, 11, 12, 13, 15 and 16) include no children and so are likely to eventually cease to exist. Except for Kilat Ngeting of HH12 who adopted a girl fathered by his brother, Sabung (living in Household 14), and Luhat Tehin of HH 15 who has adopted the son of his wife, none of these households has adopted any children. This suggests that the continuity of the household is of little concern to the Punan Vuhang. This is also consistent with what Thambiah observed of the Bhuket; that they "do not have a strong value in ensuring the continuation of a *kajan* [household] through time" (1995:81). The question of growing old and of no one taking care of them does not seem to be a problem. Luhat Tehin (HH15) and Nahon Ruyong (HH 16), for example, receive shares of food equal in portion with all other households, even though they are no longer able to reciprocate in sharing.

In the narrative below, household numbers, again correspond to the numbered apartments shown in the settlement plan (Figure 20).

Figure 20: Longhouse Settlement Layout 1995

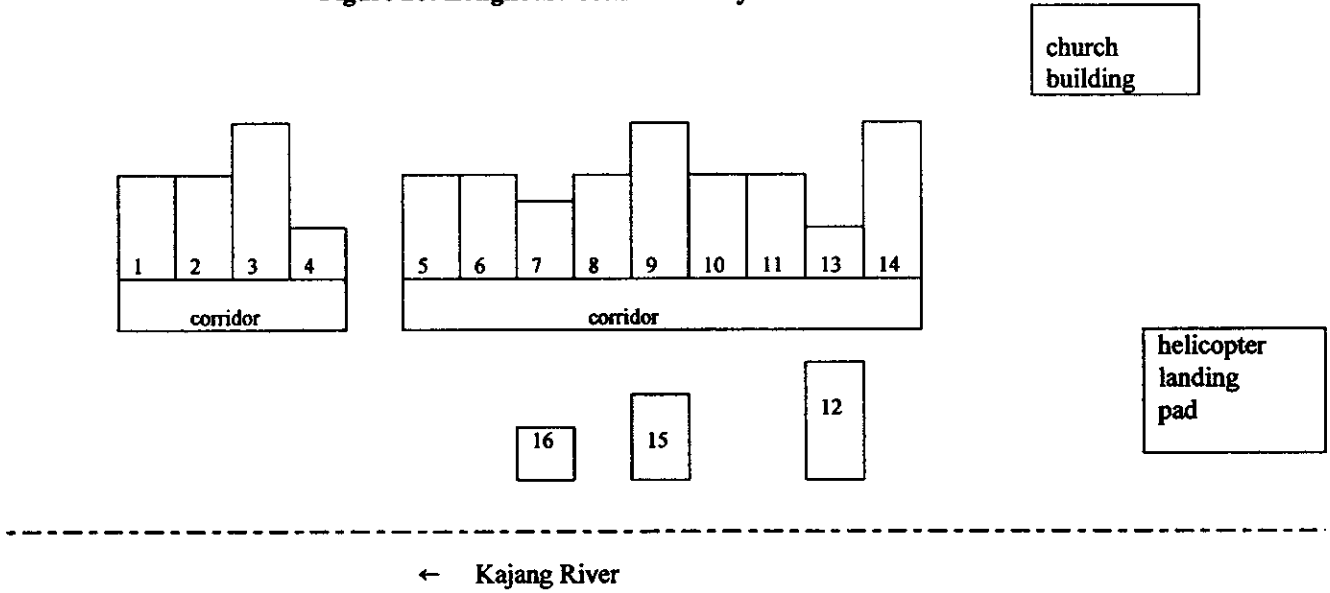
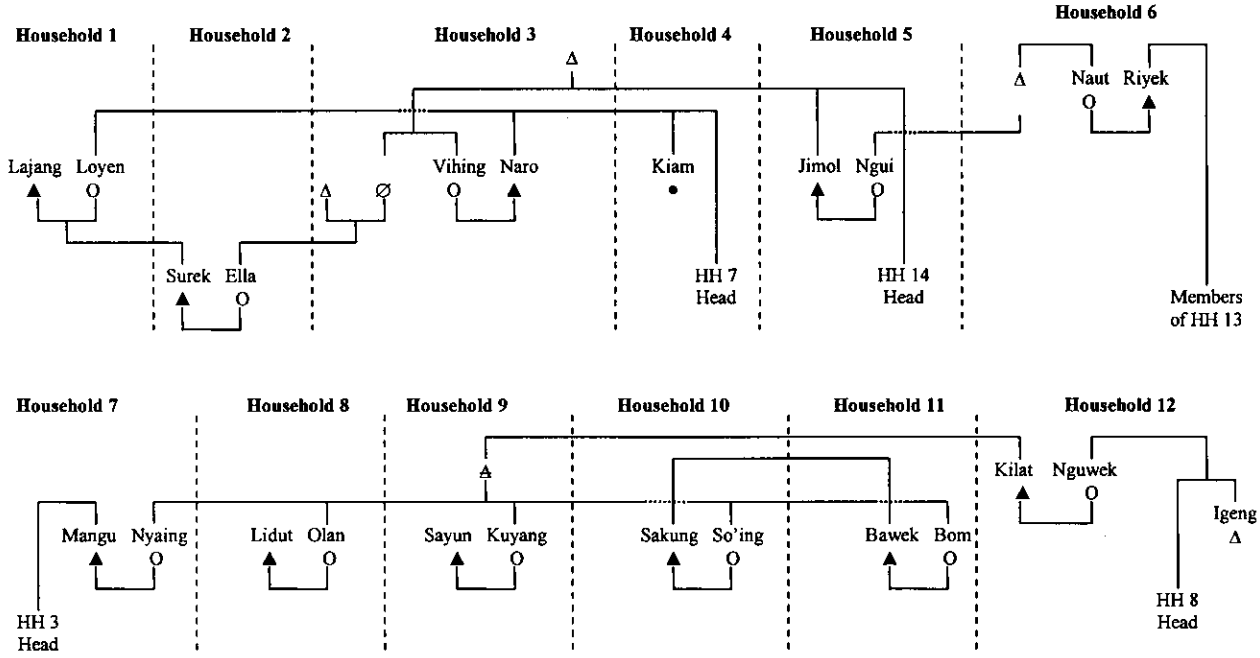


Figure 21: Principal Relationships between Different Households



Note: ▲ and ● show household head; ⧋ and ∅ show deceased members. Only those who are named are members of the household. The others are discussed later in the description of individual households.

Figure 21: Principal Relationships between Different Households (Continued)

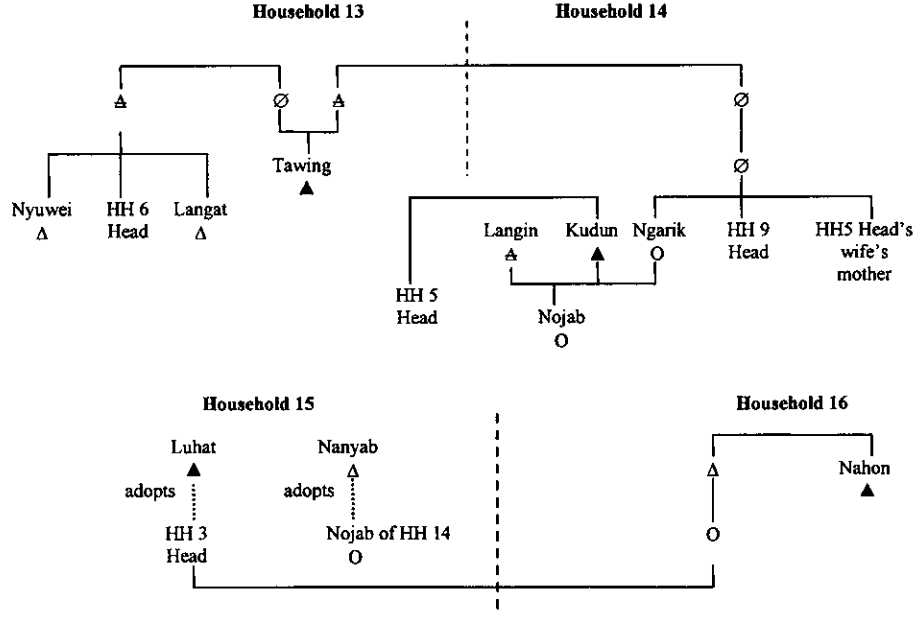


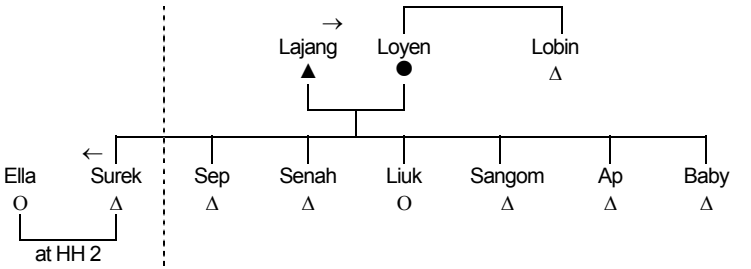
Table 15: Household Composition, 1995

		Household Composition				
HH no.	**Household Head**	**Male**	**Fe-male**	**Total**	**Generation relative to household head (HH) and number of persons**	**Generation Structure**
1	Lajang (M)	6	2	8	0 (3) -1 (5)	wife, wife's brother, HH, 4 sons, 1 daughter
2	Surek (M)	5	1	6	+1 (2) 0 (1) -1 (2)	mother's mother's brother, father's mother's husband, wife, HH 2 sons
3	Naro (M)	2	2	4	+1 (1) 0 (2) +1 (1)	wife's father, wife, HH wife's sister's daughter
4	Kiam (F)	2	3	5	0 (1) +1 (4)	HH 2 sons, 2 daughters
5	Jimol (M)	4	3	7	+1 (1) +1 (1) 0 (3) +1 (2)	wife's mother's mother wife's mother wife, wife's mother's son, HH, 2 sons
6	Riyek (M)	6	1	7	0 (3) -1 (3) -2 (1)	wife, wife's brother, HH 2 wife's brother's sons, wife's sister's first son's son
7	Mangu (M)	1	1	2	0 (2)	Wife, HH
8	Lidut (M)	2	2	4	0 (2) +1 (2)	wife, HH son, wife's brother's daughter

Table 15: Household Composition, 1995 (continued)

		Household Composition				
HH no.	**Household Head**	**Male**	**Fe-male**	**Total**	**Generation relative to household head (HH) and number of persons**	**Generation Structure**
9	Sayun (M)	4	2	6	+1 (1) 0 (4) -1 (1)	wife's father's brother wife, wife's brother and his wife, HH wife's brother's son
10	Sakung (M)	2	2	4	0 (2) +1 (2)	wife, HH son and daughter
11	Bawek (M)	2	1	3	0 (3)	wife, brother, HH
12	Kilat (M)	2	1	3	0 (2) -1 (1)	wife, HH wife's sister's son
13	Tawing (M)	3	-	3	0 (3)	2 mother's brother's sons, HH
14	Kudun (M)	4	2	6	+1 (1) 0 (3) -1 (2)	foster father, wife, wife's daughter's foster father (who is also wife's former husband), HH wife's daughter, son
15	Luhat (M)	1	-	1		HH (Nanyab who lives in the same apartment as Luhat takes his meals in HH 14, and is recorded there)
16	Nahon (M)	1	-	1		HH

Household 1: Lajang Ap

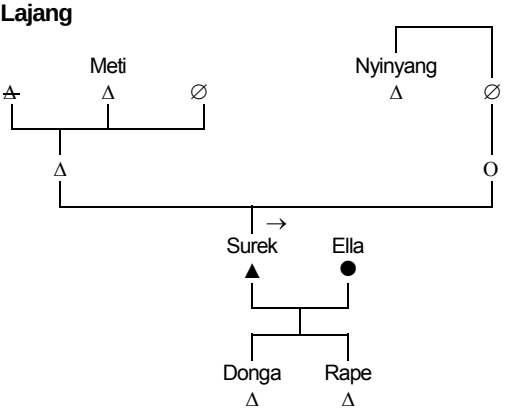


Notes: ▲ is household head and ● is his wife. Dotted line shows different households

As Punan Vuhang practice uxorilocal residence, a man marries into the wife's household, as indicated by the direction of an arrow (←) next to the man's name. Hence, Lajang, the household head, is married into Loyen's household, and their son, Surek, is married into his wife's family. Surek and his wife Ella, form household HH2.

In HH1, Lajang Ap lives with his wife, Loyen, their six children and Lobin, Loyen's brother. Lobin lives in his own separate bedroom, but takes his meals here. He participates in the cultivation of Lajang's swidden. Surek, eldest son of Lajang and Loyen, is married to Ella of HH2.

Household 2: Surek Lajang

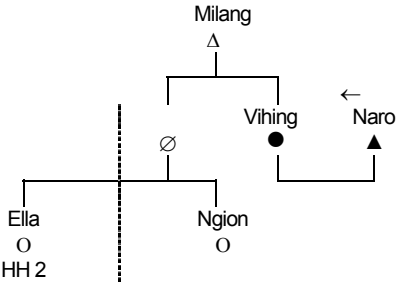


Note: ⏃ indicates deceased male and ∅ indicates deceased female member

In Household (HH) 2, Surek lives with his wife, Ella, and their two boys. Surek is the son of Lajang and Loyen of HH1. Ella is from HH3. During the construction of the new longhouse, with the help of his own and his wife's families, Surek built this apartment.

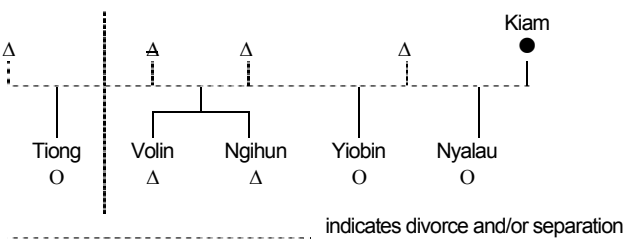
Two other individuals live with them. The first, Nyinyang, is Surek's mother's mother's brother. After the death of his wife, Nyinyang lived with Loyen at HH1. As there are 9 persons living in Loyen's small apartment, and Surek had only his wife and two boys living in their newly constructed apartment, Surek asked Nyinyang to live with him. He similarly requested Meti, his father's stepfather, to stay with him.

Household 3: Naro Pua



In HH3, Naro lives with his wife, Vihing, her father and her sister's daughter, Ngion. The couple is childless. Ngion is the daughter of Vihing's late sister, Varong, and her first husband, Bawek (of HH11). Varong divorced Bawek and later married Igeng. When Varong died, Igeng returned to his mother's sister's household (HH12) while Ngion lives with her mother's sister, Vihing, and Vihing's husband, Naro. Ngion's elder sister Ella is married to Surek and lives in HH2.

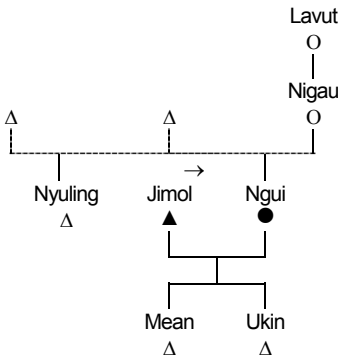
Household 4: Kiam Pua



Kiam lives with her two sons and two younger daughters. In her first marriage with Masan of HH9, she gave birth to Tiong. When they were divorced, Masan's sister in HH8 adopted Tiong. In her second marriage to Langin, she gave birth to Volin and Ngihun. When she and Langin were divorced, the two boys stayed with their father. After their father's death in 1994, the teenage boys returned to stay with their mother. Years later, Sabung (HH13) lived with her for a short period and she gave birth to Yiobin. Sabung then left her. Sabung's brother, Kilat, of HH12 adopted Yiobin as his daughter but the girl continues to live with her mother in HH4. Lastly, Nyuwe lived with her for a short period and she gave birth to Nyalau. Being an elderly man, he could not provide for the household and he left them. Nyuwe's brother, Riyek, of HH6 adopted the baby but she continues to live with her mother.

Since her divorce from Langin, Kiam has not had a husband to support her and it is her brother, Naro, of HH3 who takes care of her needs. According to Naro, when she was a young girl, Kiam became mentally unstable after the death of their mother. For that reason, all of her relationships with men have ended in separation.

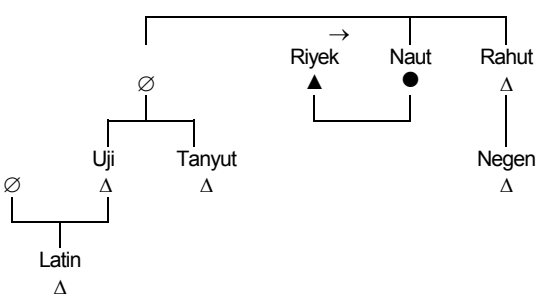
Household 5: Jimol Milang



In HH5, Jimol lives with his wife, Ngui; their two boys; Ngui's mother, Nigau; and her grandmother, Lavut. A seventh member, Nyuling, is the son of Nigau and her first husband, Tarang, who now lives with his brother, Bawek, in HH11. Seven members of this household live and take meals together.

In addition, there are two other individuals who occasionally share their meals with them – Rahut and his son, Negen, who otherwise live in HH6 (as shown in Household 6). Rahut was Nigau's second husband after her first divorce. Rahut and Nigau had a son, Negen, and a daughter, Ngui, who is the wife of Jimol, the household head. When they were divorced, Rahut returned to live with his sister, Naut, of HH6. Their son, Negen, lives with the father while Ngui lives with the mother. Maintaining their relationship, Ngui usually prepares extra food for Rahut and Negen who eat with the rest of the household.

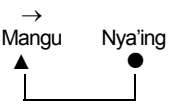
Household 6: Riyek Sion



Riyek lives with his wife, Naut. They are childless. Living with them are Naut's brother, Rahut, and his son, Negen; her late sister's two sons, Uji and Tanyut, and Uji's son. Rahut, as noted above, was married to Nigau, and their daughter, Ngui, is married to the household head of HH5. He and his son live in a small shelter connected to the communal corridor outside Riyek's apartment. Whenever his daughter's household has additional food, Rahut and Negen will take their meals there. Uji is a widower. Upon the death of his wife, he

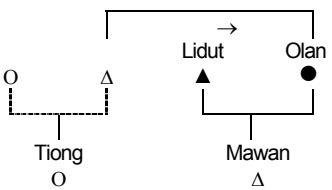
came back to live with his mother's sister, Naut. His son, Latin, lives with him. Tanyut is the unmarried brother of Uji. Riyek's two brothers are living in HH13 with Tawing.

Household 7: Mangu Pua



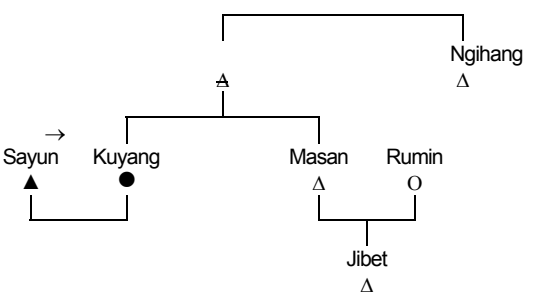
Mangu and his wife live in this household that consists only of a married couple. There are no children living with them. Mangu is the brother of Naro (HH3), Loyen (HH1) and Kiam (HH4). Their apartment is the first of a row of apartments belonging to the five sisters – Nyaing, Olan, Kuyang, So'ing and Bom (HH7 to HH11). This is the most obvious instance of the Punan Vuhang's practice of uxorilocal residence.

Household 8: Lidut Lihim



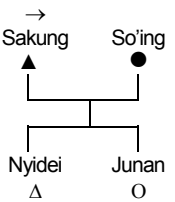
Lidut lives with Olan and their son, Mawan. They adopted Tiong, Olan's brother's daughter. Tiong was born to Olan's brother, Masan (living in HH9), and Kiam of HH4. When they were divorced, Tiong was a little girl. Because her mother was mentally unstable and her father could not take good care of her, her father's sister, Olan, adopted her. Lidut has a brother, Igeng, who lives with their mother's sister in HH12.

Household 9: Sayun Liwan



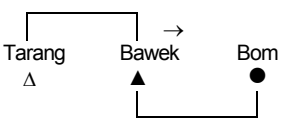
Sayun lives with Kuyang. They are the fourth childless couple in Long Lidem. Kuyang's father's brother, Ngihang, lives with them, instead of his own brother, Kilat, of HH 12. Her brother, Masan, his wife, Rumin, and their son, Jibet, also live with them. Rumin is from the Penan community of Long Tanyit. After staying with her parents in Long Tanyit, she and her husband now live in Long Lidem with this household. Rumin is the first and only Penan to marry a Punan Vuhang.

Household 10: Sakung Sanei



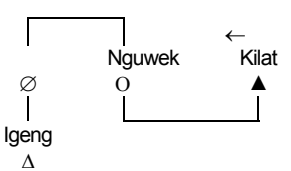
This is the sole nuclear family in the community. Sakung lives with So'ing and their son and daughter. Sakung is the younger brother of Bawek of HH 11, while his wife is the younger sister of Kuyang of HH9.

Household 11: Bawek Sanei



Bawek lives with his wife, Bom, the youngest of the four daughters of Surau. They are childless. Bawek's brother, Tarang, lives with them. He was formerly married to Nigau of HH 5, and their son, Nyuling, lives with the mother. Bawek's youngest brother, Sakung, is head of HH10. Bawek's daughter from a previous marriage, Ngion, lives with her mother's sister, Vihing, in HH3.

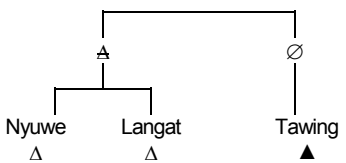
Household 12: Kilat Ngeting



Kilat lives with his wife, Nguwek. They are childless. Living with them is Nguwek's sister's son, Igeng. Igeng is a widower whose late wife was Varong. When he was married to

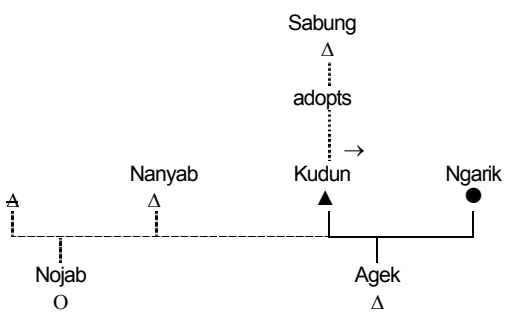
Varong, he adopted Ngion, Varong's daugther from her previous marriage to Bawek of HH11. After Varong's death, he returned to stay with his mother's sister, Nguwek, while Ngion stayed with her mother's sister, Vihing, in HH 3. Igeng's brother is Lidut, head of HH8. Kilat's brother, Ngihang, lives with their brother's daughter, Kuyang, in HH9. The reason why Ngihang lives with his niece is because he is treated very well by Kuyang and her husband Sayun.

Household 13: Tawing Agek



Tawing lives with his mother's brother's two sons, Nyuwe and Langat. The two brothers prefer to live with their cousin rather than their own brother, Riyek, in HH 6.

Household 14: Kudun Milang



Living with Kudun are his wife, their son Agek, his wife's daughter from her first marriage, Nojab, and his foster father, Sabung, a widower who is childless. Sabung is the brother of Kilat of HH12.

Presenting a complex situation is the case of Nanyab, who takes his meals with this household but lives in HH15. His position is rather peculiar because Nanyab was a former husband of Ngarik and foster father of her daughter, Nojab. Prior to their marriage, Ngarik was married to Langin and gave birth to Nojab. Ngarik divorced Langin and later married Nanyab. During his marriage with Ngarik, Nanyab adopted Nojab. After their divorce, he continued to provide for his former spouse and adopted daughter. This provision continued after Ngarik married Kudun. Because of his former marriage with Ngarik, it was considered not appropriate for him to live with them, and he therefore lives in HH15 with

Luhat Tehin, but continues to take his meals in this household. Therefore, following my definition of a household, I place Nanyab as a member of HH14.

Household 15: Luhat Tehin

▲

In Household 15, Luhat Tehin takes his meals by himself and lives with Nanyab who sleeps in a room of his own. Luhat is an old widower who has no children of his own. He adopted Naro of HH3 but prefers to live on his own and eat alone. Nanyab, the individual mentioned above in HH14, has no relation to Luhat Tehin.

This apartment was originally a temporary house used by Kudun of HH14 when he was constructing the main longhouse apartment. Attached to the temporary house is Nanyab's room. When Kudun and his household moved into their present longhouse apartment, Nanyab remained in his own room, and Luhat moved into the vacant apartment.

Household 16: Nahon Ruyong

▲

Nahon lives alone. Like the apartment in which Luhat lives, Nahon's apartment was constructed before the longhouse was built. Being an old widower and childless, Nahon has no intention of building a durable longhouse apartment. Although he lives by himself, he occasionally takes his meal with his brother's daughter, Vihing, in HH3.

Courtship, Marriage, Childbirth, Temporary Separation and Divorce

This section begins by first describing the events that lead to marriage, followed by issues relating to married life. The first section focuses on courtship, the marriage ceremony, taboos relating to marriage and childbirth, and the socialization of the young. I then discuss issues related to marriage, such as post-marital residence, relations with in-laws, forming a new household, divorce, remarriage, and the practice of infanticide. During fieldwork I did not observe any of these things and information therefore comes primarily from the statements of Naro and Vihing, my chief informants on these matters.

Courtship

When a man becomes interested in a girl, he visits her at her apartment (or temporary shelter when the Punan Vuhang were still nomadic) when her parents are away hunting or collecting food. When the parents are around, he does not visit the girl, as courting her in their presence is considered disrepectful to them. While courting (*pingu*), other members of the community alert the couple of the parents' return. Usually their dogs arrive first thus indicating their impending arrival. When the relationship reaches a deeper level of mutual liking, the man is likely to pursue a more serious relationship by approaching the girl during sleeping hours.

When the relationship has reached a level where the man believes she may approve of an open relationship, he asks the girl to host a *pingu* session in her apartment. This involves inviting his friends to come to her place during the night to play and dance. If she disagrees, she will give excuses such as a headache or some discomfort that indicates her unwillingness to enter into an open relationship. If she agrees, he then invites his friends to her house. After dinner, the friends come and her parents excuse themselves to visit another household so that their daughter's suitor will feel at ease. From then on, young people regularly gather at the girl's house to sing, dance and play.

Open courtship allows for a deeper degree of relationship in which the man may seek permission to sleep with the girl. However, instead of asking her directly, he makes the request to the girl through an elderly man or woman. If she agrees, he approaches her when everyone is asleep. He has to wait especially for her parents to sleep, as courting in their presence would signify discourtesy towards them. However, when they are asleep, this rule does not apply. Even if the parents wake from their sleep, they will pretend to be asleep to avoid embarrassing the suitor. The courting couple will sleep together for a night or two. Before dawn, he will sneak back to his shelter or apartment before the girl's parents wake up. This period is considered a trial relationship to ascertain their compatibility, indicated through her willingness to have sexual intercourse with him.

The sleeping together enhances their relationship and the couple then openly carries out activities together. For example, they go into the forest alone to process sago and other forest activities. This is unlike in the past when they only participated in joint activities with their friends. He openly takes his meals in the girl's house during the absence of her parents. If they return in the course of a meal, the young man leaves the apartment to avoid contact with them. However, the parents will be understanding and return to the apartment only for a short while. Then, they will go to another household so that the man can return to join the girl and resume his meal.

The Marriage Ceremony

Over a period, the man has to commit himself to marriage. When he is ready, he asks the girl whether she wants to be married. She usually responds by saying that among many men who have wooed her, he is the only man with whom she has agreed to have an intimate relationship.[1] She replies that she has been waiting for his request and is glad to accept his marriage proposal.

The day following the conversation, the girl informs her parents of their commitment and readiness for marriage. She requests them to prepare a feast for the marriage ceremony. Happy with the marriage proposal, the parents request a person with some social standing to invite the man's household to attend the marriage ceremony. The intermediary then goes to the man's household and informs them of the intention of his visit. He makes known that his visit is not a normal one but is to invite them to attend the marriage ceremony that is being prepared for their son and the host's daughter.

The man's parents will express their happiness that the girl is to become their daughter-in-law. At the same time, they will talk of their worries about their son's marriage. They say that they are embarrassed about his staying in another person's household and maintain that he is an incapable and impatient person. They will say that if only he were a real man they would be glad for the girl's parents to accept their son as their son-in-law. After that, the man's parents inform their kindred of the marriage ceremony that evening.

The intermediary then returns to the girl's parents to convey what he has been told. However, the humble tone of this conversation is just a formality and the preparation for the ceremony continues. The girl's kinsmen divide the work between themselves to hunt for wild boar and prepare rice (in the past, harvest sago) for the event. As evening approaches, the food is ready and all the bride's kinsmen wait for the groom's kinsmen beside the sago dishes. The host then requests the intermediary to invite the groom's kinsmen to participate in the feast. The intermediary goes to the groom's house to inform his kinsmen that they have been invited by the bride's kinsmen to attend the ceremony. He immediately invites them for the feast rather than having any small talk first. Meanwhile, the finely adorned groom and his kinsmen are ready for the invitation. At this point the kinsmen accompany him to the bride's house for the marriage ceremony.

The groom initiates the ceremony by becoming the first person to eat a scoop of the food prepared for the occasion.[2] Then he takes another scoop, keeps it inside his mouth, returns to his apartment and spits out the food there. Then he returns to the gathering and his bride eats one scoop of the food. After taking the first scoop, she stops eating. Following the consumption by the bride and the groom, the kinsmen of both sides participate in the meal. As no other type of food is necessary for the ceremony, the food is quickly consumed

[1] This conversation is included to indicate how the questions and answers could transpire during this vital moment before they agree to marry. This sketch is idealized based on the informant's descriptions as no marriage proposal was made while I was living with the Punan Vuhang.

[2]When they previously practiced *adet behok*, the Punan Vuhang observed several auguries during the ceremony. The occurrence of certain omens would cause the postponement of the marriage, such as, for example, any person sneezing before consuming the food.

after three or four scoops have been eaten by each person. Thus, the marriage ceremony is completed very quickly.

Instead of remaining in his spouse's apartment, the groom returns to his apartment accompanied by his kinsmen. There, his kinsmen advise him to behave like a "real man" (*linau mongo*) as he will be living in another person's household. They advise him to conduct himself properly toward his wife's kinsmen. He must be patient and generous, behave well and work hard. They warn him to drop all bad habits which they have tolerated thus far. After these speeches, the ceremony is completed. When everybody retires to sleep, he goes to sleep with his wife and thereupon becomes a member of her parents' household.

This simple ceremony is also observed by the Bhuket who do not perform elaborate rites for marriage (Thambiah 1995:83) and corresponds with the literature on marriage among the Punan:

> Marriage rites are minimal, indeed sometimes nonexistent … in many groups marriage is entirely informal (see Urguhart 1951:519; Jayl Langub 1972:220)…. The informal aspect of marriage is confirmed by the extremely limited practice of the marriage gift or payment (Sellato 1994:156).

Taboos

Taboos described in this section were said by the older people to have been observed by the Punan Vuhang before their conversion to Christianity. The day after the marriage ceremony, the newly married couple was forbidden to go anywhere and had to remain in the hut. From then on until the birth of their first child, various auguries and taboos regulated their lives. On the second day, the couple could go out of the hut but had to remain within the vicinity of the camp. Outside the shelter, if they came across the maroon woodpecker (*Blythipicus rubiginosus parvus; pee-it*), an augury bird, flying from the left, the man had to sleep separately from his wife for a week. From the third day onward, the man could then go out of the camp to hunt and collect food. Usually they processed sago together as their first joint chore after becoming husband and wife. If a branch fell on the way during the first movement of the community away from the camp site where the marriage had taken place, the couple had to divorce or separate temporarily.

There were several taboos that the young couple had to observe. They could not kill and eat several types of food and had to refrain from doing certain activities. The list below shows the taboo animals that they could not eat.

If the husband had to kill a snake in defense, he had to separate from his wife for a week to avoid any ill-effects. A cooking pot that had been used to cook barking deer or snake meat had to be washed thoroughly three times before it could be used by the couple to cook food.

Table 16: Animals Taboo to Newly Married Couples

Animal	Effect	Effect following the animal's characteristic
barking deer; *tela'u*	shorten life-span	probably related to barking deer being attacked by leopards
python; *sai tavun*	will experience a difficult life	The snake's twisting movements
tortoise; *kalop*	initially good life but will later face difficulties and will be unable to face problems with boldness	like a tortoise withdrawing its head into its shell in times of adversity

When the wife became pregnant (*bertayit*), they had to observe several more taboos to avoid a difficult childbirth. Any activity that entailed complications had to be abandoned as it was believed it would hinder delivery. This included abandoning a felled tree that did not fall to the ground directly (*kayu mati*) due to becoming entangled with other trees or vines. Therefore, before felling a tree, the man had to select one that was free from vines. Other activities that had to be avoided included plucking eyelashes and eyebrows, as this was thought to cause the baby to have a bald head. The man could not wear a bottom protector (*tabin*)[1] and the couple could not tattoo other people. For the duration of pregnancy, the husband had to search for *janang*, *talong*, and *kemusang* fruits for his wife to eat. The expectant mother could not wear simply any cloth, but only the *katib* cloth worn by Punan Vuhang women.

If there was a thunderstorm during the night, both the husband and his pregnant wife could not lie down or sleep. They had to remain awake (*pikgok*) until the rain stopped. If the camp was beside a river bank, they had to wait for the river level to rise (*civu*) which was indicated by a sudden rush of water flowing down the river. If there was no rain, they had to wait for the thunder to stop. Before they slept, they filled the bamboo water container (*bulu bangap*) with water to signify the rising of the water level of the river. These prohibitions ended with the birth of their first child.

When the mother was heavily pregnant and was a few months from delivery, she and her spouse had to camp with a midwife (*dok ang tikgob aran nganak*—'she who knows how to assist in childbirth'). Accompanied by their close kinsmen, the couple followed the midwife's band wherever they camped so that they would be always close. According to T.B.N Oldrey who visited the Punan Vuhang in 1971 with D.B. Ellis,

> After the child is born, the umbilical cord is divided by a single stroke of a sharpened bamboo 'knife' against a wooden block, and the end tamped with fresh charcoal powder until the bleeding stops, no tie is used. The placenta is delivered by traction on the cord and buried; it is not the basis of any spiritual beliefs. For two or three days after delivery the mother is nursed with a warm stone wrapped in cloth placed on the lower abdomen to 'expel the baby's blood': some years ago,

[1] The bottom protector (*tabin*) is a piece of leather worn over the bottom. When a man sits in the forest wearing a *tabin*, he does not have to find a dry place or worry about thorns.

before this practice started, several women apparently died of post-partum haemorrhage (Oldrey 1972:272).[1]

After delivery, the mother could not bathe for a week. During her first bath, she put a type of fern (*paku tanok*) on a rock downriver from where she took her bath. The Punan Vuhang believed that the odor from her childbirth would flow away with the river current. Spirits smelling the odor would follow the smell back to its origin and then attack the young mother. The fern served to defend the woman from the spirits by severing the spirits' bowels if they tried to pass it. After that, she did not have to observe any further taboos.

Regarding babies, a variety of taboos regulated baby boys, while baby girls were free from them. Only a very old man could cut the hair of a baby boy, and he had to use the sharpened skull of a male *Macaca fascicularis* monkey (*kuyat*). The Punan Vuhang believed that the use of the monkey skull enabled the baby to live a long life. The infant also absorbed the spirit of bravery from the male *kuyat* that is capable of attacking leopards.

The sleeping place of a male baby could not be located directly beneath the roof beam (*leyeb languk*) as this was thought to be used by the malevolent widow spirit (*oroh balu*) as its pathway. If the baby was found directly beneath the beam, the spirit would harm the baby. As women were forbidden to walk over the head of a man, so too were they prohibited from stepping across the baby's head when he was lying on the floor. As an added precaution, the baby's head was covered with a piece of cloth to avoid the resulting ill-effects if a female member should accidentally step over its head.

Table 17: Taboo Foods Prohibited to Boys

Punan Vuhang	Vernacular	Scientific Name
tabalak	wild durian	*Durio kutejensis*
katu	the *empurau* fish	*Tor tambroides*
tela'u	barking deer	*Muntiacus muntjac*; *Muntiacus atherodes*
kuli	leopard	*Neofelis nebulosa*
boep	bear	*Helarctos malayanus*
otet payau	deer's feet	*Cervus unicolor*
talun payau	deer's testicle	*Cervus unicolor*
manok otu / manok kuan	rhinoceros hornbill	*Buceros rhinoceros borneansis*
musang	a type of civet	unknown
totung	porcupine	*Hystrix brachyura*
kok	a type of civet	unknown

Until he reached adulthood, a boy was forbidden from consuming a variety of taboo foods, as indicated in Table 17. If a boy got a headache as a result of his household cooking a *kok* civet, he wore a cap made from the skin of the civet for one or two weeks. Similarly, if he got a headache and red eyes due to their cooking a rhinoceros hornbill, he

[1] Due to this crude form of child delivery, Naro brought his adopted daughter, Ella, to the government clinic for delivery a month before her due date. Despite the long and difficult journey, he was willing to take the risk rather than have his adopted daughter go through the traditional method.

had to wear a cap made from the skin of a hornbill and then, when he became an adult, he could not eat more then ten rhinoceros hornbills in his entire lifetime. In the case of civets known as *musang*, children of both genders could only eat the animal when they were able to pronounce its name. Otherwise, they would become mute.

Girls, too, had their own restrictions. They were not allowed to consume primates except for grey leaf-monkeys (*Presbytis hosei*; *bongat*), red leaf-monkeys (*Presbytis rubicunda*; *kumom*), white-fronted langurs (*Presbytis frontata*; *bui*) and silvered langurs (*Presbytis cristata*; *kucei*). They were also forbidden to eat sun bears (*Helarctos malayanus*; *boep*), clouded leopards (*Neofelis nebulosa*; *kuli*), the yellow-throated marten (*Martes flavigula*; *tusungoh*) and all types of edible snakes eaten by the men.

It was believed that the cooking of *tasak* and *luan* roots, and *lungan* fish, the food eaten by the *otu kunyuling* spirits, had bad effects on small children. Consequently, before a household cooked these foods, they informed the community so that the children would stay quietly inside their apartments. The effects on the children were *lahut tasak* or *lahut luan*, that is, severe stomachache or chest pain. Following this, a shaman healed the children by rubbing their bodies with *kumulang* leaves (*ngemulang*), which acted to draw out the ill-effects of these foods. Then the shaman held a ritual to strengthen the affected child. While the shaman chanted, he held the blade of a small knife (*yu*) while the child held the handle. The ritual signified the severing (*silit*) of the malevolent spirit from the child. It also gave further protection from the effects of these foods.

At sunset, the *otu dogkek* spirits set up fishing rods along the riverbank, so children were forbidden to play there lest they disturbed the spirits. If the children accidentally knocked down the fishing rods, the spirits retaliated by causing the children to fall ill. If the parents found their children playing along the riverbank at sunset, they requested a shaman to hold a ritual to prevent any ill effects. During this ritual, the patron-spirit of the shaman acted to stave off objects (*lumut*) hurled at the children. Otherwise, if the children were attacked, they would vomit and have a severe headache. When this happened, the shaman needed to hold a long ritual to heal (*ngemulang*) them. In becoming an adult, a person no longer observed these taboos.

The sections following this description are about child-naming, infanticide and socialization. Except for socialization, taboos and other practices traditionally associated with infancy are no longer observed now that the community has converted to Christianity.

Child Naming, *Mek Aran Bikop*

When the baby could sit, crawl and smile, the parents selected a name from a dead ancestor closely related to the father or the mother.[1] When both spouses agreed upon the name, they had to seek agreement from their siblings who "owned" the name. They inquired secretly and whispered (*pukulim puknyik*) the name. When they agreed on the name, it could then be given to the baby and then mentioned out loud. However, if they chose a name of the shaman's patron spirit, it could be given to a baby immediately after birth. The patron spirit would be very happy with his name being given to a baby. Examples of spirit names were Gik, Rape, Nyidei and Nahon (from Jenahon).

[1] See Appendix 2 for genealogy and kindred of existing kin groups.

If a child did not live a good life, his or her name could be changed to that of an ancestor of the other parent. If the baby continued to live a bad life, the name would again be changed. The name of a living person could not be given to a child. When a person died, and a living person's name sounded similar to that of the dead person, the living person's name had to be changed to avoid confusing the spirit of the dead person. For example, when Nanyan died, the headman Ninyang's name was changed to Jungeu.

Infanticide, *Ciu Bikop*

It was taboo for a baby to be born with the umbilical cord (*lilit okar*) wrapped round its body or for it to be breech delivered (*terkukup*). If such a baby were allowed to live, it would pose harm not only to itself, but also to its parents. Within memory there have been two babies that were abandoned due to the umbilical cord having been wound around them. The Kayan people also practiced the same taboo (see Footnote, page 51 on a legend about how Sigoh Garing was born with the umbilical cord wrapped round him).

Socialization

In the course of growing up, a boy was expected upon reaching adolescence to follow his father and learn various skills. These included, in the past, identifying routes in the forest, tracing the tracks of game and then trailing them, identifying forest resources, making tools and learning how to survive in the forest. A boy learned how to imitate the calls of most animals to lure them within shooting distance of the blowpipe. Essentially, a boy acquired whatever skills his father knew.

When a boy became a teenager, he might gain further skills by seeking out men who were considered experts in particular activities. Generally, a man became an expert in only one or two tasks because of the effort and diligence needed to achieve expertise. These tasks included the following:

- Tracing deer tracks on the river bed—Deer tracks on a stony river bed were difficult to identify as the fast-flowing water removed most traces;
- Tracing the flight direction of a helmeted hornbill that had been shot by a blowpipe. This type of bird required a long time for the blowpipe poison to take effect. If it was shot in the afternoon, it would only die from the blowpipe poison the following day. This meant that the hunter had to identify the characteristics of the hornbill, including the posture and direction of the bird after being shot and the physical terrain that it would most likely fly to;
- Getting within the spearing range of a wild boar without alarming the quarry during *kusi* hunting. Every man had some level of expertise in this type of hunting as it enhanced his status, and
- Making tools such as blowpipes and boats.

Because these skills required much effort and time to master, a man could only learn them from experts. Only a persistent student would be able to gain expertise in a particular task that made him stand out from the rest. In the past, division of the community into separate bands also posed difficulty for teenagers when the expert lived in a different band. Consequently, a young man only had the opportunity to fully follow an expert who was

a kinsman living in his band, although he could choose to follow a man by joining the other band for a period.

In his early teenage years, a boy participated in hunting and food gathering with his father and siblings. As soon as he acquired the basic skills he began to hunt by himself.

Issues Related to Marriage and Family

This section describes aspects of marriage and family. These include relations with in-laws, post-marital residence and the forming of a new household, separation and remarriage after the death of a spouse.

Relations with In-Laws

A man is expected to behave in the presence of his parents-in-law with shyness and humility. His feeling of shyness toward the mother-in-law is even more intense because of his unfamiliarity with her. Toward the father-in-law, his shyness is much less, because being of the same sex, they have frequently been in contact before marriage. Therefore he does not feel so embarrassed. On the other hand, parents-in-law are expected to treat their son-in-law with respect. They do not ask him to do anything as it is assumed that he is the other major food provider in the household in addition to his wife's father, and so does not need to be told what to do. Furthermore, anything obtained by him is given to his wife's parents.

The deep respect and the intensity of shyness between parents-in-law and son-in-law cause them to avoid talking to each other unless absolutely necessary. Arguing and quarreling are totally abhorred. Such open conflict can be a reason for a wife to divorce her husband, as happened to the late Varong Milang who divorced her husband for this reason. In fact, informants mentioned to me that her brother could not endure the insult and so left the community to live with another Punan group in the Upper Balui. There is no sanction against such disrespect, but the man will become the butt of gossip as a person who has committed the gravest form of *nyelupoh*—meaning total disrespect.[1]

In his relationship with his wife's siblings, he continues the relationship as before. If they have been close to each other, they remain so. Nonetheless, being in-laws, they do not argue openly with each other.

The son-in-law not only does not talk to his father-in-law, he cannot even mention his name. If the son-in-law has to talk to him, he merely speaks without directing his words toward anybody and says what he has to say (as is the case between my foster father, Naro, and his father-in-law, Milang Ruyong). When the father-in-law is with a group of people, the son-in-law asks another person to speak to him. For the brothers or sisters of a parent-in-law,

[1]The Punan Vuhang avoid marrying Penan because they say quarreling among in-laws is common in the Penan community. The Punan Vuhang find such disrespect abhorrent, but among the Penan it does not seem to be so offensive. As a result, they avoid marrying the Penan because they say they could not bear the thought of being disrespectful to their in-laws nor being treated discourteously by them. This explains why they rarely marry outside their group, in spite of the unequal gender ratio. Nonetheless, one marriage between a Punan Vuhang man and a neighboring Penan woman did occur in 1992, before I started fieldwork. In 1994, the couple came to live in the Punan Vuhang community. When I visited them in 2002, they were still living there.

the prohibition to use their names depends on the level of attachment between a man's wife and her uncles and aunts. If they are close, the relationship towards them is similar to that of parents-in-law. Otherwise, if his wife is not close, he may call them by their names. The adopted parents of the spouse are also treated with full respect.

According to Naro, for several months a son-in-law will not eat with his wife's parents until he has become familiar with them. When a recently married man returns home, if the in-laws are around, no matter how hungry he is, he will avoid eating for as long as they are present. However, knowing that the son-in-law is hungry, they will excuse themselves and visit another household until they are certain that he has eaten. If his wife is not in, the mother-in-law cannot prepare food for him and she has to look for the daughter to prepare the food. Being newly married, he will be too shy to prepare his own food. In times like this, he may go to his sister's apartment to eat if he is hungry. It is said the man will only feel at ease with his in-laws after three years or three consecutive occurrences of the fruit seasons. He also feels at ease when he has become a father as his children become attached to the grandparents which helps lessen his shyness.

This level of deep respect also holds between a woman and her husband's relatives. For example, when my foster mother, Vihing Milang, was talking with Nyinyang, her husband's uncle who lived next door, both of them spoke in whispers.

Postmarital Residence

The Punan Vuhang practice uxorilocal residence in which the man joins his wife's household after marriage. Throughout Punan Vuhang history, there was only one period when people adopted virilocal residence. This occurred during the time when the Punan Nuo and Punan Terkalet fled from the Kayan to join the Punan Vuhang who were on close terms with their enemies. To obtain protection from the Punan Vuhang, they offered their women in marriage. Since then, there has only been one case of virilocal residence which occurred because a mother would not allow her daughter to marry a fierce man. After this rejection, no man wanted to associate with the girl. Consequently, the mother offered her daughter to a diligent, hardworking man, who could not join his wife's household because he needed to care for his aging parents. Otherwise, there have been no other cases of virilocal residence that I was told of.

Formation of New Households

Up to the present, after a period of several months of marriage, newly married couples are encouraged to set up their own household (*piksat lapo*). A new household obtains a share of food in the food distribution system. If they remained in the parent's apartment, they would not get any additional share. However, certain conditions have to be met before they can leave. In the past, the man had to prove that he could obtain sufficient food, especially during lean times. Besides that, he had to construct his shelters by himself and produce certain tools necessary for survival. The couple had to be independent in sago processing. In short, the newly married couple had to be able to stand on their own without the help of their parents. The ultimate condition for them to set out by themselves was the ability to procure the necessary cooking pot through barter trade, without which they could not cook food on their own.

Eventually, all the children married and established their own households, except for the last married daughter, who remained in her parent's household with her husband in order to take care of the elderly couple. Other siblings provided their help by giving food to them and filling whatever needs were necessary. As the young couple remained with the parents, they acquired rights to all the materials remaining in the household, such as the cooking pot, axe, blowpipe and knives.

Temporary Separation and Divorce

Punan Vuhang use the same word (*tolang*) to refer to both temporary separation and divorce. Generally, temporary separation is a result of a spouse being jealous of his wife or husband and accusing the other of committing adultery. There are two types of temporary separation, *tolang puklik* and *tolang paknyot.* Permanent separation by divorce is called *tolang kak ciu.*

Tolang Puklik

Temporary separation means that after a period of separation the spouses reunite. The cause of this separation is due to uncontrolled anger resulting in a serious quarrel that forces the husband to leave the household. After a period, their tempers cool and he returns to reunite with his wife. The cause of the quarrel is usually due to an allegation of adultery, but there is no proof to substantiate the accusation. Since there is no evidence, their tempers eventually cool and they reunite. Temporary separations usually occur up to three times before a marriage becomes stable. The Punan Vuhang call such temporary separations *cukui botak*, a situation that resembles the three stones of the fireplace. A fireplace requires three stones to form a stable foundation to hold the cooking pot. With less than three stones, it is impossible to hold the pot, and so with a marriage. Until there are three occurrences of temporary separation, a marriage is not considered stable. According to informants, all married couples who have been married for a long time have experienced these three *cukui botak* separations.

Tolang Paknyot

Unlike *tolang puklik*, this separation results from a proven allegation of adultery (*paknyot*). To resolve the anger, the person with whom the spouse committed adultery has to pay the affected spouse a fine of a cooking pot, a spear or a good knife. When tempers cool, the couple will reunite.

Tolang Kak Ciu

Divorce happens when, during the period of separation, one of the spouses marries another partner. With that, there is no way for the former couple to reunite without the newly married spouse divorcing his or her second spouse. Among the present members of the Long Lidem community, there are four such cases of divorce in which the subsequent marriages became stable and one ended with the death of the spouse.

Remarrying After Death of a Spouse

The death of a spouse dissolves the union and the surviving spouse is free to remarry. Nonetheless, the widower (*avan*) or the widow (*balu*) has to complete the mourning period before being courted by a new partner. The first time that a person sleeps with a new partner requires a payment of a fine called *buling* to the dead spouse's siblings or children, and his or her own children. The payment can be anything such as adornments, clothes, knives or other valuable items, with the more valuable items being given to the children. If the *buling* is not given, a negative effect called *tulah* will fall on the children causing them to become sick or to become prone to divorce when they marry later. *Tulah* is caused by the soul of the deceased spouse which is angry over the action of the surviving spouse. With the payment of *buling*, the person can start a new relationship and marry a new partner. If the courting takes place before the mourning period is completed, more valuable items of *buling* have to be given to the siblings of the dead spouse.

Kinship

Punan Vuhang kinship is bilateral, meaning that "relationship is traced through both father and mother" (following Keesing 1975:22-23), and is similar to the Bhuket (Thambiah 1995:91 and the Penan (Brosius 1992:216). The Punan Vuhang do not seem to attach particular importance to ancestors. Most persons do not know the names of ancestors beyond those of their grandparents.[1]

The lack of knowledge of the ancestors' names is due to a prohibition against mentioning the names of the dead, including one's own ancestors. The only time that a name can be mentioned (in a whispering tone) is during the naming of a baby, when the name of a dead ancestor is given to a child. Consequently, only during such times are the names of ancestors revealed to the community, thus re-establishing a relationship to the ancestor.[2] Unless this happens, an individual may never learn the names of his ancestors. This prohibition of mentioning names of the dead therefore prevents one from recognizing kinsmen related through common descent beyond that of the great-grandparents.

The exception to this absence of interest in ancestry is the group of related households that claims a genealogical link from Nyuvuhan (see page 164). Figure 22 below shows the kinship relations between three second cousins who regard each other as closest kin. Relationships are traced through either paternal or maternal links. For Sayun, the link is through his father, and for Naro and Uji, through their mothers, emphasizing the bilateral aspect of their relations.

Thambiah (1995:93) mentions that this lack of preserving lengthy genealogy is also noted by Freeman (1970:32) among the Iban, and Rousseau (1978:89) among the Kayan.

[1]The community is fortunate to have the very old Luhat, who, as mentioned in Chapter One, has survived through several generations. It is from Luhat that I obtained the names of the ancestors of various households (Appendix 2).

[2] This re-establishing of kinship relations is by no means universal. The names of common ancestors may never be revealed if no children are born to their descendants. The genealogy of Riyek almost certainly would have been terminated if his eldest brother had not recently fathered a child by an insane woman. All of Riyek's other kin are childless. The genealogical line of Luhat will definitely come to an end as he has no living siblings and is childless. His adopted son is also childless.

According to Sather (1994:47-55), Freeman is referring to the Baleh Iban who were recent migrants. Other Iban groups, like the Saribas Iban, have lengthy genealogies up to 32 generations. Rousseau's observation is true among the commoners but not among the aristocratic families who take great pains to keep into memory their ancestors (see page 168 on Lake Dian). The Bhuket on the hand, "are able to trace relationships with great precision" (Thambiah 1995:93).

Punan Vuhang Kinship Terms[1]

Reflecting the bilateral nature of the Punan Vuhang kinship system, terms of reference and address are the same for relatives on both the father's and mother's sides.

Consanguineal Terms

The Punan Vuhang kinship system is quite similar to Eskimo or Inuit terminology — "all cousins are lumped together under the same term but are distinguished from brothers and sisters, and all aunts and uncles are lumped under the same terms but are distinguished from mother and father" (Ember and Ember 1996:404). As shown in Table 18 and Figure 23, all first cousins are referred to by a common reference term as *pakri,* with second cousins as *pakri lipoh*, and third cousins as *pakri lipoh kak keduo*. The cousin term *pakri* is differentiated from ego's siblings, *yek* for elder sibling and *arin* for younger sibling. The terms for uncles and aunts on both the father's and mother's sides are the same. Uncles are referred to as *mak mek*, and aunts as *minek*. Father is referred to as *man*, and mother as *inan*. A special address term, *ivet*, is, however, given to the mother's brother's wife.

In comparison to the kinship terms of other Punan groups, whose "systems often do not distinguish birth order, and the contrast between elder and younger sibling therefore appears to be irrelevant" Sellato (1994:154); the Punan Vuhang do differentiate birth order.

From a genealogical perspective, there are distinctive terms up to seven generations, or eight if we accept the term the "children of grandchildren." Great-great-grandparents are referred to as *kek lop ayok*; great-grandparents as *kek lop*; and, grandparents as *kek*. Punan Vuhang refer to their children as *nak*, and grandchildren as *nyahuk*, while great-grandchildren are referred to as *nak nyahun* – 'children of grandchildren.'

The terms of address that a person uses for his kin do not strictly follow this terminology. For example, Milang, the only man who is a great-grandfather in the community, calls his great-grandchildren *nyahuk*, similar to the term that Naro, a grandfather, uses to call his grandchildren. Similarly, the child, Donga, calls his great-grandfather, Milang, *kek* instead of *kek lop*. A person may call a fond uncle *mak mek*, while addressing another uncle by name. Likewise, a boy may call his aunt *minek* while calling another by her name. An individual may call his children *nak*, while another person may call his by their names.

According to informants, the terms of address that a person uses to greet other persons shows the relationship between them, and the respect that he or she has toward the other. Normally, if they have affection for each other or the individual has respect for the

[1] According to informants, in the past, the Punan Vuhang used teknonyms and death names. Today they no longer use such terms, and so I have not dealt with them.

other, he or she calls the latter by a kin term. Otherwise, there is no feeling of uneasiness in using personal names.

In contrast, Thambiah (1995:68) reports the Bhuket seldom use terms of reference when speaking to one another. They call each other by pet names, thus reflecting the relaxed atmosphere of interaction. People use terms of reference only when there is a need to clarify or explain relationships to an outsider. However, the feeling of affection causing Punan Vuhang to address other persons using terms of reference, as mentioned above, is also found among the Bhuket. Thambiah states: "I have also observed that Bhuket use these terms of reference when they want to express affecton, and sometimes in a playful way. When an individual calls his brother *Arik* or his wife *Sok* or his father-in-law *Bosok* he is expressing feelings of affection in public. But in normal circumstances the preference is to remain informal and call each other by given or pet names" (1995:68).

Tracing kin outward, the Punan Vuhang have terminology up to the range of third cousin. Between second cousins—*pakri lipoh*, marriage is allowed but discouraged. Between third cousins, *pakri lipoh kak keduo*, marriage is common since their relationship is considered distant. The nature of the relationship between two cousins depends a great deal on their level of interaction. For example, as in Figure 22, Naro is closer to his second cousins, Sayun and Uji, than to his first cousins. In a like manner, Naro's relationship to Uji is closer than to Tanyut, Uji's brother. Naro can ask Uji to do things to help him, but will not ask help from Tanyut. The difference is due to an age gap. Uji is just a few years younger than Naro and the two were playmates since they were boys. They are close to each other and they call each other by the same pet name. On the other hand, Tanyut is much younger, and a different kind of relationship has developed between them.

Figure 22: The Closest Kin of Three Individuals

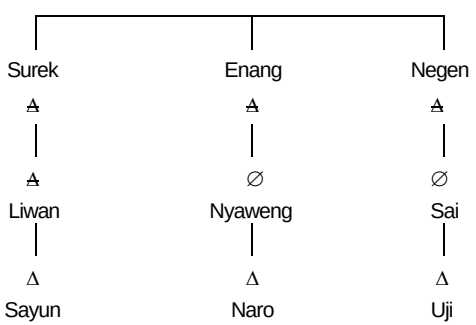
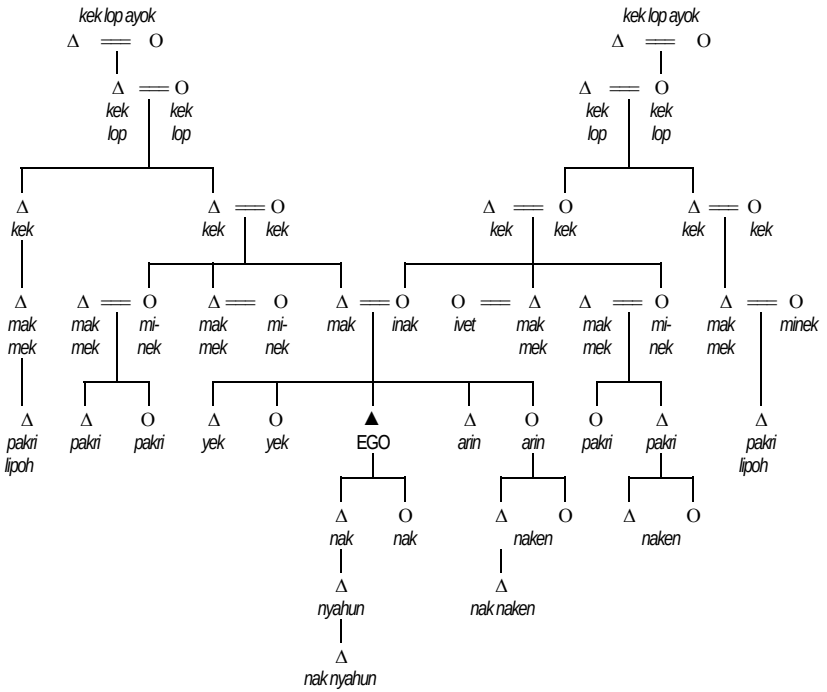


Table 18: Punan Vuhang Consanguineal Terms

Kin Relation	Initial	Reference Term	Address Term
Father	F	*man*	*mak*
Mother	M	*inan*	*inak*
Son & daughter	S; D	*nak en*	*nak*
grandchildren – children of son and daughter	SS; SD; DS; DD	*nyahun*	*nyahuk*
great-grandchildren	SSS; SSD; SDS; SDD; DSS; DSD; DDS; DDD;	*nak nyahun*	*nyahuk*
elder brother / sister	B; Z	*yek*	*yek*
younger brother/sister	B; Z	*arin*	*arie'*
nephew & niece – children of brother & sister	BS; BD; ZS; ZD	*naken*	*naken*
grandfather/mother	FF; FM; MF; MF	*kek*	*kek*
paternal & maternal great-grandfather / mother	FFF; FFM; FMF; FMM; MFF; MFM; MMF; MMM	*kek lop*	*kek*
paternal great-great grandfather/mother	FFFF; FFFM; FFMF; FFMM; FMFF; FMFM; FMMF; FMMM;	*kek lop ayok*	*kek*
maternal great-great grandfather/mother	MFFF; MFFM; MFMF; MFMM; MMFF; MMFM; MMMF; MMMM;	*kek lop ayok*	*kek*
uncle – father & mother's brother; father/mother's sister's hushand; father's father's brother's son; mother's mother sister's son	FB; MB; FZH; MZH; FFBS; MMZS	*mak mek*	*mak mek*
aunt – father & mother's sister; father's brother wife	FZ; MZ; FBW	*minek*	*minek*
aunt- mother's brother's wife	MBW	*ivet*	*ivet*
1st cousin – children of uncle & aunt	FBS; FZS; MBS; MZS;	*pakri*	*arie'*
paternal & maternal granduncle/aunt	FFB; FFZ; FMB; FMZ; MFB; MFZ; MFB; MFZ	*kek*	*kek*
2nd cousin – children of paternal & maternal granduncle/aunt	FFBS; FFZS; FMBS; FMZS; MFBS; MFZS; MFBS; MFZS	*pakri lipoh*	*arie'*
3rd cousin		*pakri lipoh kak keduo*	*arie'*

Figure 23: Punan Vuhang Consanguineal Terms



Affinal Terms

The Punan Vuhang have a special set of terms for affinal kin–those related through marriage. The terms include those for persons who are related through the spouse and affinal kin of one's siblings, and certain categories of paternal/maternal affines. Table 19 and Figure 24 below list affinal terms.

A male ego refers to all his brothers-in-law as *luguk*, including his wife's brothers and sister's husbands. He calls his sisters-in-law *languk*. A female ego refers to her brothers-in-law as *languk* and her sisters-in-law, as *ngarik*.[1]

The term of reference between parents-in-law and children-in-law is the same, *boson*. Nonetheless, children-in-law add the suffix *le* to refer to their father-in-law (*boson le*) and *oroh* for mother-in-law (*boson oroh*). To address a spouse's uncles and aunts, the same terms as for parents-in-law are used.

A Punan Vuhang avoids addressing his or her parents-in-law or children-in-law. When he needs to talk to his in-laws, he will pass the message to his spouse, or in her absence, to someone else to convey the message. Unless absolutely necessary, a man calls his father-in-law *bakeh* ('friend') and a woman calls her mother-in-law *ayu*. For the opposite sex, there is no address term used between the son-in-law and the mother-in-law, or the daughter-in-law and father-in-law. This non-utterance of address terms is a sign of extreme respect. Usually when a person wants to convey something to his in-laws, the request is made known through the spouse. When the spouse is not present and there is an urgent need to do so, the conversation between the two is carried out with deep respect. They talk in a low tone of voice and use soft-spoken words—a sort of audible whispering.

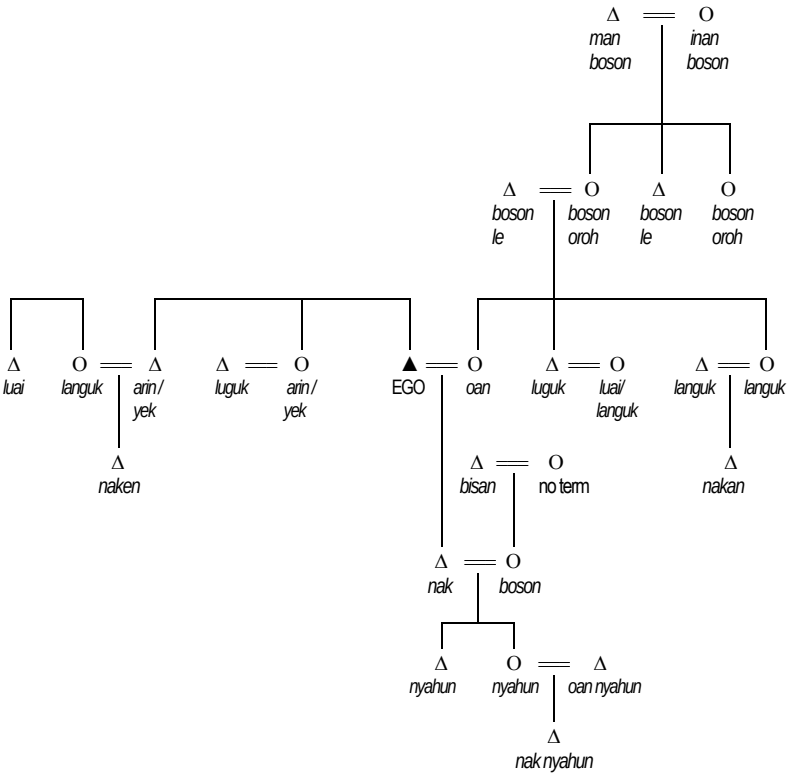
Between an individual and the parents of his or her children's spouses, a man calls the father of his child-in-law *bisan*, and a woman calls her counterpart *ayu*. There is no address term for the opposite sex. There is no prohibition of social interaction between *bisan* and *ayu*, although they are expected to show deep respect for one other.

[1] See Sellato (2002:93-103) for a discussion of the special reference terms for such siblings-in-law. Using a complex terminological system for affines involving distinction of the same-sex and cross-sex relation and gender differentiation, Sellato attempts to correlate the nomadic way of life and economy with utrolocal post-marital residence. However, as mentioned above, the Punan Vuhang's practice of uxorilocal post-marital residence would not support this hypothesis.

Table 19: Punan Vuhang Affinal Terms

Kin Relation	Initial	Reference Term	Address Term
wife	W	*oan*	*oak*
wife's brother	WB	*luguk*	*luguk*
wife's brother's wife	WBW	*languk*	*languk*
wife's sister	WZ	*languk*	*languk*
wife's sister's husband	WZH	*luai*	*luai*
children of wife's brother and sister	WBS & D; WZS & D	*naken*	*naken*
father-in-law – wife's father	WF	*boson le*	no term
mother-in-law – wife's mother	WM	*boson oroh*	no term
uncle-in-law – wife's father's and mother's brother	WFB; WMB	*boson le*	no term
aunt-in-law – wife's mother's and father's sister	WMZ; WFZ	*boson oroh*	no term
grandfathers-in-law	WFF; WMF;	*man boson*	*man bosok*
grandmothers-in-law	WFM; WMM	*inan boson*	*inan bosok*
daughter-in-law's father, son-in-law's father	SWF; DHF	*bisan*	*bisan*
daughter-in-law's mother; son-in-law's mother	SWM; DHM	no term	no term
grandchildren's spouse	SSW; SDH; DSW; DDH;	*oan nyahun*	*oan nyahuk*
brother-in-law – sister's husband	ZH	*luguk*	*luguk*
sister-in-law – brother's wife	BW	*languk*	*languk*
sibling of sister's husband & brother's wife	ZHB; ZHZ; BWB; BWZ	*luai*	*luai*
When Ego is woman: husband's sister and brother's wife	HZ; BZ	*ngarik*	*ngarik*
When Ego is woman: daugther-in-law's mother; son-in-law's mother	SWM; DHM	*ayu*	*ayu*
When Ego is woman: there is no term for the father of her daughter-in-law and her son-in-law	ZWF; DHF	no term	no term

Figure 24: Punan Vuhang Affinal Terms



Note: If ego is a woman, all her sister-in-laws are called *ngarik*; she calls the mother of her daughter-in-law *ayu*, and there is no term for the father of her spouse.

Conclusion

With the deaths of thirty-two individuals since settling down, and divorce and separation, 9 households today are composite households due to amalgamation by which related individuals once belonging to separate households have joined together. This complex membership of households has implications for other aspects of social life as seen in the next chapter when six individuals carry out shifting cultivation on their own rather than farming together with the rest of the household members.

Chapter Nine: The Contemporary Economy

Introduction

This chapter will discuss the Punan Vuhang responses to the adoption of cultivation in 1968 and then permanent settlement at Long Lidem in 1971. An ability to produce enough food to allow them to stay in one place resulted in many elements of their former mobile economy being discarded. However, the Punan Vuhang do not rear animals for food and so continue to rely on wild game for protein. Consequently, the Punan Vuhang remain a hunting people although their hunting strategies have changed. The passage of time has also caught up with the Punan Vuhang and outside materials obtained through trade are now important features in their life, in comparison with nomadic times.

This chapter on the contemporary economy will discuss the shift of economic orientation by first assessing why the Punan Vuhang prefer planting to their former sago exploitation. This is followed by an account of the stages of cultivation. We will then look at the forms of hunting and fishing that the community continues to do. The final section on trade shows how the economy has now become partially geared towards producing materials to barter for outside goods.

Preference of Cultivation to Sago Exploitation

This section compares sago exploitation with cultivation to explore why the Punan Vuhang prefer cultivation. The adoption of cultivation ensures a more constant food supply in contrast to sago gathering which always involved some degree of uncertainty.[1] With proper procedures and under the right weather conditions, rice and cassava are crops that can be cultivated to obtain a sufficient yield which lasts through the year. In contrast, sago harvesting depended entirely on the natural occurrence of sago growth and necessitated the community continually moving.

Rice cultivation produces grain that can be stored, and cassava can be taken from the ground when needed. These two food resources sustain the community throughout the year, thereby allowing them to remain sedentary. Sago consumption, on the other hand, required mobility. It involved harvesting vast areas and moving between one river system and another that entailed long-distance traveling. This travel was particularly intense during the lean period when sago was the only available staple food. Even so, during the nomadic era, Punan Vuhang frequently experienced food scarcity and were reduced at times to eating a single meal per day.

The relative food certainty from cultivation allows people to pursue leisure activities during the non-cultivation season. Although they may face meat shortages, the availability of food allows them to take rest days from work. During nomadic times, the men had to alternate between sago gathering and hunting throughout the lean period. They searched for food every day, except during a torrential downpour or when sick. The only time when the

[1] I use the relative term "more constant" because famine can still happen. In January 1994, a flash flood swept away their harvested rice. Consequently, the Punan Vuhang had to revert to sago as their staple food for much of the year. Also, the exceptionally long period of drought which prolonged the lean food period caused local wild boar to destroy much of the cassava crop. Consequently there was insufficient rice and cassava to sustain the community. The rice crop of the following year 1994/1995 was abundant and the Punan Vuhang did not have to rely on sago anymore.

community could ease their activities was during the season of abundance that lasted about five months during which they could easily obtain fruits and hunt wild boar.

The availability of cultivated food increases a sense of food security and therefore enables hunters to carry out less intensified hunts. They know that if they fail to obtain game, their spouse can collect cassava leaf shoots or ferns from nearby for cooking into side dishes. Frequently hunters return by midday, despite not obtaining any meat. Hunters during nomadic times did not have the luxury of returning home early without game. They had to leave camp by daybreak and only returned at nightfall to maximize their exploration ranges over a vast area. Informants mentioned that the distant areas covered by those hunters on a daily basis (*puklik-ulik*) would now require young men to camp overnight (*misan*) before they could reach those places. When too far to carry back, older hunters nowadays leave the carcasses in the cold streams for preservation and then return home. The next day, the hunters ask the young men to bring back the carcasses.

Cultivation and permanent settlement have allowed women to become less involved in economic activities in comparison to sago processing that needed much of their time and involvement. Nowadays, Punan Vuhang women only need to assist their husbands in the cultivation stages of sowing, weeding and harvesting, in which much labor is needed. At other work stages, they may merely accompany their spouses and cook for them in the swidden fields, without getting involved in the work. However, more often than not, the women remain in the longhouse while their husbands work by themselves in the swidden fields.

The availability of cassava close to the settlement allows the women to go themselves to dig cassava tubers as a supplement for the main staple food which is rice. Once or twice a week, groups of women paddle boats to the swidden sites. If the swiddens are quite far from the longhouse, a male teenager accompanies them. When they run out of cassava, they revert to eating rice. In the early mornings, they dry the rice and pound it to remove the husk. If their spouses do not get any game, they go to the adjacent swidden to pluck cassava leaf shoots. Whenever necessary, they collect firewood in the surrounding forest. Most of the time, they are free from any task, and weave rattan products.

For children, life has become much better as they now have more meals than when the community was nomadic. They have breakfast and then play throughout the morning. They come back for lunch and resume playing in the afternoon. At night they have an evening meal. In comparison, children in the past had only a single meal during lean periods. They only had their first meal when their parents returned from sago processing late in the day. Nonetheless, informants emphasized that during times of food scarcity, they had been used to having empty stomachs. Therefore, as long as there was food at the end of the day, it was all right. They said that it was only after looking back on the nomadic times that they realized how much suffering they had endured.

During a lean period, when food was scarce, hunters had to go out every day to search for food. No man remained behind unless he was very ill. Now, the community observes Sunday as a rest day. They even have the luxury of having a long holiday, extending from Christmas day (December 25) till the second day of the New Year (January 2). Everyday during this festive season, they celebrate into the night and young people frequently play until the wee hours of the morning.

For these reasons, the Punan Vuhang continue to practice cultivation and have never reverted totally back to sago exploitation, except for the famine year of 1994. In fact, they are so successful as cultivators that for many years, downriver Penan communities such as Long Tanyit, Long Kajang and even Lusong Laku come to visit them for Christmas. They even stay throughout the Christmas-New Year period because of the availability of food.[1]

In the adoption of cultivation, the Punan Vuhang have transformed themselves into successful cultivators. They do not rear animals, however, and remain hunters. They also continue to harvest honey during the flowering season and collect fruit during the fruit season. However, with the availability of cultivated fruit they now depend less on wild fruit.

Shifting Cultivation

The mode of cultivation that the Punan Vuhang have adopted is shifting cultivation. This has been, and continues to be, the main economic practice of the agrarian communities living in central Borneo. Swiddening has been extensively studied in Borneo (see, for example, Chan 1991; Chin 1977, 1985; Dove 1985; Freeman 1955; King 1993:170-187; Rousseau 1977). Basically, swidden cultivation involves clearing and burning an area of forest to provide a space for cultivation, sowing rice seeds with a dibble stick and planting various crops, weeding (if necessary), and then harvesting. After that, the land is allowed to revert to forest, a process known as fallowing. When the land has reverted to secondary forest with mature trees, the cultivators use the land again for another cycle of cultivation. While the forest is under fallow, the cultivators move to cultivate another area of forest land. They move from one site to another until the land that they cultivated earlier has fully regenerated into secondary forest (*bae*).

Shifting cultivation requires simple technology. The farmers use long knives to slash and cut down small trees, and axes to fell larger trees. In recent years, chainsaws have been introduced to fell trees. They use dibble sticks to make shallow holes in the ground into which they then sow seeds. In harvesting, they use small blades to cut the rice panicles from the stalks.

Rice plants obtain nutrients from very old secondary forest's and primary forest's humus in the soil, and from biomass of the burnt vegetation. In secondary forest, nutrients are derived mainly from the burnt biomass, converted from forest vegetation.

In this section, I will briefly describe the stages of cultivation. This provides some idea of how the Punan Vuhang's work processes differ from other agrarian communities who rely solely on rice as their staple food. It is important to note that the Punan Vuhang subsist on a variety of staple foods that include, in the order of importance, rice, cassava, bananas, potatoes and yams. As such, I believe that they have chosen not to cultivate rice as extensively as other people. Also, the Punan Vuhang live on land with very fertile soils quite similar to those of Benalui basin which the Kayan of Uma Daro claim are the most fertile in

[1] In 1994, the Penan people did not come to celebrate with the Punan Vuhang. This was because the logging companies which intruded into their territory had paid "good-will" money for them to celebrate Christmas. Also, in that particular year, the Punan Vuhang lost the season's rice crop due to flooding.

the Balui (Chan 1991:xliv).[1] As such, they do not have to farm large tracts of land, although in less fertile areas, their swiddens are considerably larger. Besides rice cultivation, the Punan Vuhang plant cassava that requires a year to mature. Thus, at any given time, the Punan Vuhang rely on two staple crops— 1) the stored yield from the annual rice harvest and 2) cassava from the previous year.

Site Selection

The Punan Vuhang generally select an area that can accommodate the fields of all households in the village. However, some households select separate sites if they feel that the location is better than the common area. The presence of some individual sites isolated from the others differentiates Punan Vuhang cultivation from that of the Kayan who only farm together in adjacent swiddens. Among the Kayan, even if the farms are cultivated at different locations, groups of households make their farms adjacent to each another.

During the cultivation season of 1994/1995, the main planting site was in the Petjawa area, a short distance away from the longhouse. The households that farmed there were those of Kudun, Lajang, Lidut, Negan, Sayun, Surek and Uji. Bawe and his brother, Sakung, cultivated by themselves far upriver in the Betla'up area. Naro and Kilat farmed adjacent to each other at Laput Kebuhor, while Jimol cultivated his land close to Naro and Kilat. All other individuals, Igeng, Sabung, Nanyab, Rahut, Nyuwe, Milang and Mangu, planted their swidden far from each other. Except for Mangu, all the other individuals live in the households of other people and were therefore compelled to cultivate their own rice farms as a supplement to their host's.

The close proximity of the Petjawa area to the longhouse meant that the cultivators could go to their farms on a daily basis and return each afternoon to the longhouse instead of having to construct a farmhut. However, the short distance to the longhouse meant that the land there has been cultivated more than once, some twice or even three times. Consequently, some individuals found the land to be over-cultivated. They feel that the secondary forest has yet to sufficiently regenerate to provide enough burnt biomass for rice cultivation. Consequently they choose to farm old secondary forest land at a distance from the longhouse. In comparison, during the previous cultivation season of 1993/1994, the entire community cleared an area of very old secondary forest in the Sengayan region. Since that land was far from the longhouse, the community built durable farmhouses nearby.

Method of Site Selection — The first stage of cultivation involves a farmer going to the tentatively selected site to examine the soil conditions to determine its suitability.[2] They avoid land with exposed roots on the ground surface. Here the soil (*tanok apau*) is so infertile that roots grow on the ground surface to obtain nutrients from the rotting humus and cover the soil like a tightly woven mat that prevents rice plants from establishing their roots in the soil.

[1] The land is so fertile that it is common for rice plants to collapse due to the heavy yields. This also occurred in land cultivated from young secondary forest.

[2] Along the Kajang, most land had been cultivated by the agrarian Kajang people a few centuries ago. Therefore, although the vegetation resembles primary or virgin forest, the land is old secondary forest.

The second thing they avoid is land covered with exposed soil because this indicates that it is barren, lacks humus and so will not support any plant growth.

A good piece of land is one that is flat and contains a stream meandering across it that irrigates the soil. The soil in this kind of land is considered 'cool soil' (*tanok bajik*). The presence of ferns growing over the land is an indicator of very fertile soil. Even in a young secondary forest, where the trees are not sufficiently big to provide enough burnt biomass, rice grows well because of the natural fertility of the soil. In young secondary forest land, another indicator of suitability is the presence of thorny vines. This type of land is very fertile; however, it is difficult to clear because of the thorns.

The best type of land for cultivation is secondary forest land that has been fallow for more than ten years. The trees dominating the land are sufficiently mature, with a trunk's diameter larger than a man's waist, to provide an abundant biomass for conversion into burnt nutrients, still, the trees are not too big for easy felling. The tree canopy is dense enough to prevent sunlight from penetrating to the forest floor, thus preventing the growth of weeds and thorns. The absence of weeds and thorny growth and the presence of few seedlings make cutting undergrowth easy. In addition, the absence of weeds also means that there will be minimal weed growth from seeds already in the soil during the rice cultivation season. Another factor that contributes to soil fertility is the abundance of humus from decayed trunks that were not burnt during previous cultivation.

Very old secondary forest and primary forest land are also suitable for rice cultivation. The surface soil contains a thick layer of humus. Due to the thick tree canopy that shades the forest floor, weeds do not grow on such land. The only disadvantage is the presence of huge trees, including hardwood species, that are difficult to fell. The tree felling stage, therefore, has to be started much earlier to enable it to be completed a month before the sowing season. This early cutting allows the branches of the larger trees to dry sufficiently to burn. Therefore, only households with strong men attempt clearing such land for rice cultivation.[1]

Slashing Undergrowth, *Lemirik*

Slashing undergrowth is the first work process and involves cutting and clearing small plants. The ground has to be cleared of obstacles that would pose danger during tree felling when the feller's retreat must be swift to avoid the falling trees. In young secondary forest, young plants and vines make up a major part of the vegetation that impedes quick movement. These small plants become dry and burn easily which provides fuel for burning the branches of big trees during the burning stage.

To clear the ground, the farmer uses a long working knife (*ovi*), to cut through the undergrowth with a single slash. The method of slashing depends on the type of growth, as the undergrowth in old secondary forest is different from that in young forest. In primary or old secondary forest, the undergrowth is mainly seedlings with stems that are less than an inch

[1] During the early years of practicing cultivation, the community contained many young men who motivated and challenged each other to fell big trees and clear large tracts of land. At present, the availability of chainsaws enables men to fell big trees as before, including in some very old forest land.

in diameter. These trees are easily severed with one slash at the tree base, although the cutting angle determines the ease of cutting. The angle should be between 20° to 30° degrees perpendicular to the tree (see Figure 25 below). This sharp cutting angle that follows the grain of the stem is easier to sever. In comparison, cutting at a right angle across the stem causes the knife to cut against the grain, which is hard to sever and requires more than one slash. Also, the sharp angle allows the cultivator to slash at the tree base without having to bend down too low. If he slashes at a right angle, he has to squat. The severed stem base is merely two inches above the ground so that the land becomes clear of any growth.

Young trees up to four inches in diameter are cut with a few slashes at the same spot. Cutting at a sharp angle at a single spot allows the subsequent cuts to be made deeper into the trunk, thus enabling the trunk to be severed after only a few slashes. The severing of these trees is at waist-level to maximize the striking force. All trees larger than that are left standing for the tree felling stage.

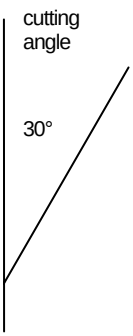


Figure 25: Angle for cutting a tree during slashing

The cultivator slashes other soft plants such as ferns with one sweeping swing horizontally above the ground. The cutting of palms and vines with hard stems requires caution. Severing a stem causes the bottom part of the stem to snap up after being relieved of its heavy growth. If a person is not careful, the sharp edge of the severed stem can spring back and cut him. Thorny vines and rattans are severed at the base by first slashing the protruding vines and thorny leaves to expose the stem. Clearing thorny growth is slow and difficult work and is described below.

On some parts of the land, trees may have fallen due to age or having been struck by lightning. The opening in the tree canopy has allowed sunlight to shine through, thus enabling vines to flourish and grow over the young trees. If the thorny growth is dense, the cultivator squats down and slowly slashes the vines at ground level. Then he cuts the thorny vines above his head to clear a space of about five feet high. After that, he stands up to clear the higher part. The work requires tremendous patience and endurance as only a very small

area can be cleared in an hour. By comparison, slashing other growth clears an area a dozen times larger in the same amount of time.

In young secondary forest, the main vegetation consists of young trees and thick undergrowth. The low open tree canopy allows sunlight to shine through which enables plant growth to cover the ground and this dense undergrowth requires tremendous effort to cut and clear. To make slashing easier, the cultivator uses a wooden hook to pull the stems and expose the inner, softer part of the growth. The work is slow as each man can only cut a single plant with each slash.

If the vegetation is covered by thorny growth as mentioned above, it seems almost impossible to clear the land. However, this vegetation is mainly found in very fertile soil in young secondary forest that has a low tree canopy. Although the clearing seems such an impossible task, after clearing, there is little work to do as the small trees are easily chopped down. Since the plants are small, the felled vegetation requires only about two to three weeks to dry. A man can therefore slowly and patiently cut the plants.[1] In comparison, much bigger trees in old forest land have to be felled very much earlier.

Felling Trees, *Motet*

The process of tree felling is to clear the land entirely of trees. Also, the trees provide biomass for conversion into nutrients through burning. Tree felling involves two distinctively different methods: chain-felling, which only one man in the Punan Vuhang community has the skill to do; and felling a few trees at a time.

Chain-felling—The man identifies a big tree that leans in the direction he wants the trees to fall. This tree has to be huge and have a wide tree crown to provide enough force to push down the trees along its falling path.[2] On a slope, the size of the tree is not so important because the force of its fall is sufficient to knock down the other trees. On flat land, only a tree much bigger than the rest can knock down the others. After that, he chops two shallow notches on all trees that will be affected by the falling of the big tree. The first notch that faces the falling direction is slightly lower than the other notch that faces the opposite direction. The depth of each notch is about a quarter of the tree's diameter. With the tree remaining partially severed, it continues to stand, but will snap if a heavy force falls against it.

Finally, the selected tree that will knock down the other trees is felled. Only a very skillful man can do this work, as the direction of the fall of the tree must be accurate to provide the maximum impact on the other, partially severed trees. First, he clears a path to run away unimpeded when the tree falls. If the tree is a huge one, another man assists him in chopping the tree. If the buttresses of the tree are high, they construct a platform up on the higher part of the tree where the size of the trunk is narrow. Then on the side of the trunk that faces the falling direction, he chops up to a third of the tree's diameter. After that, he chops the opposite side of the trunk. When the depth of the second cut is about a quarter of the

[1] For that reason, the elderly Nanyab who lived on his own would choose this kind of land for cultivation, as it does not require much effort to fell trees, unlike old secondary forest.

[2] The tree must be free from any vines from other trees clinging to it, otherwise the vines will keep the tree from falling.

trunk's diameter, he becomes more cautious. He looks up at the tree, and watches for the tree to sway each time he hacks into the trunk. He chops until the tree starts swaying. Then he quickly hacks a few times before the tree gives way. He then runs quickly away from the falling tree to a spot that is safe from falling debris.

The tree slowly sways and its massive canopy and heavy weight cause it to snap at the partially severed point. Its ponderous weight strikes down the adjacent trees within its falling range. The impact causes the partially severed trees to give way and snap at their severed points. These trees then fall on the adjacent trees and produce an impact that knocks down the other trees. Through this chain-effect, all the trees within falling range fall one by one like dominos. In an instant, all the trees crash down with a thunderous sound as each tree hits the ground, thus clearing a large space of standing trees. He repeats this process until he fells all the trees.

Felling a Few Trees at a Time—However, not every individual has the confidence and skill to perform chain-felling. Even on a slope, which is supposedly easier, they will not attempt it. These men will cut a few trees at a time and then use another tree to crash down on these partially severed trees, quite like the chain-effect but on a smaller scale of about five to ten trees. Trees that cannot be brought down by chain-felling due to their precarious position, such as those leaning in the opposite direction, are felled last.

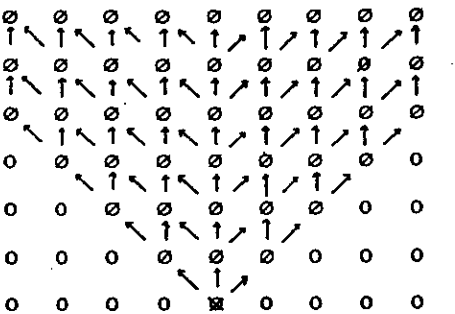
Lopping Branches, *Nutuk*

Branches that protrude up from the fallen trees are difficult to burn. Consequently, if the cultivators have the time, they first cut branches from the trunk so that they fall to the ground. This is especially so in places that have less dense wood. If the protruding branch is found at a spot which has plenty of wood, he ignores it. After that, the wood is left to dry over a period of a few weeks to one and a half months, depending on the size of the wood. Bigger logs require much more time to dry. Then for the next month, which coincides with the dry season (July to mid-August), the cut vegetation is left to dry in the hot sun. Usually the dry season extends up to a month and a half, which is sufficient to dry the branches of big trees.

Burning, *Nutong*

Following the Kayan who choose August 8th or 15th of each year to be the date for beginning sowing for each cultivation season, the Punan Vuhang burn the dry cut vegetation a few days before the sowing date. They set fire to the dry wood with torches. Slowly at first, and gradually gaining momentum, the fire spreads throughout the felled vegetation. The fire consumes the small wood and burns with a roaring thunderous sound. Gradually the fire burns the branches, then the big branches and the smaller sized tree trunks which take a whole day and night to burn. When the fire dies out completely the next day, only the big logs remain unburned. However, at spots with dense wood, the fire may continue to burn at the bottoms of the trunks for a few more days.

Figure 26: Chain Reaction Felling



Key:

O = tree trunk

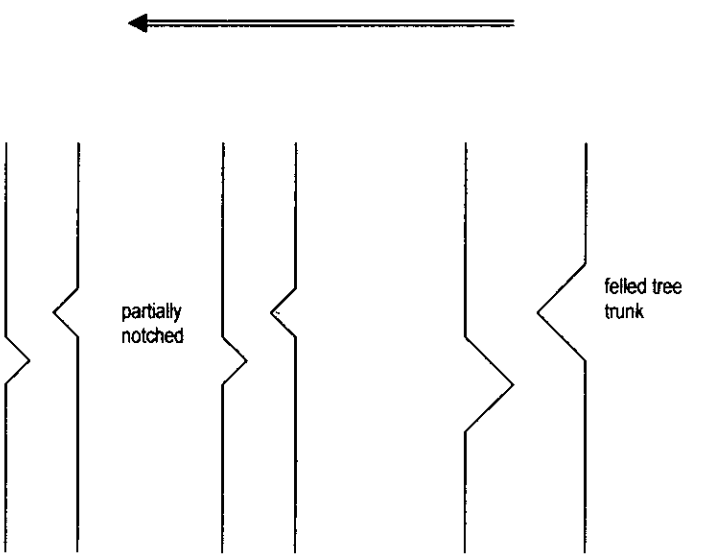
∅ = notched tree trunk

⊗ = felled tree trunk

Note: The canopy of each tree overlaps the canopies of several surrounding trees, which enables each falling tree to strike two, three or more additional trees

Source: Cited from Dove 1985:119

Figure 27: Direction of Tree Feeling



Sowing, *Nugan*

When the land has cooled down from the burning, the Punan Vuhang then sow the rice seeds, preferably on August 8th, or August 15th if burning is done after the 8th. All able-bodied household members participate in sowing which requires much labor. The household head uses a dibble stick to make shallow holes about two inches deep and an inch wide. The women drop about six to nine seeds in each hole. It is important that the sowing is quickly completed, as the Punan Vuhang believe that the rice sown later than two weeks after burning does not grow well.[1]

Weeding, *Nabur*

Weeding is done to remove weeds that would otherwise compete for nutrients with the rice plants. It is usually done two months after planting, when the young rice plants are between one and two feet high. The weeds, growing to half the height of the rice plants, have to be removed before they take up too many nutrients. The types of weeds determine the weeding method. Weeds thriving in fertile and moist soil are soft and easily pulled out. However, their growth remains prolific and new weeds will emerge later. Weeds that grow on infertile, dry and hard land are deeply rooted in the soil. These weeds are very difficult to pull out by hand, so are cut with a sickle-shaped weeding knife.

The weeds, once pulled out or cut, are left where they are to become ground cover that will prevent rain from hitting the soil surface. Also, the weeds become barriers to runoff rain water that would flow over the surface, thus minimizing soil erosion. As a result, the removal of the weeds not only eliminates them from competing for nutrients with the growing rice, but also helps prevent nutrients from being washed away by the fast-flowing water.

Although weeding is important, it is only necessary in swidden cultivated on young secondary forest land. These weeds were the main vegetation before clearing and their seeds lay dormant under the soil surface during the burning process. When rain falls, they germinate and sprout. In old forest land, there is no weed growth before land clearance, and therefore weeding is not necessary.

Harvesting, *Kelunau*

By the first week of January, the rice that was sown earliest is ready for harvesting. Everybody in the household participates. Some use a small blade to cut off the panicles of grain while others pluck the stalk at the internode. Some Punan Vuhang do not put their harvested rice into a basket strapped onto their backs like the Kayan, for example; instead, they hold the stalks in their hands. When their hands are full, they then bring the stalks to a basket that is shared by a few harvesters. When the basket is full, they pour the grains into a 25 kilogram sized gunny sack. At the end of the day, they have usually managed to harvest three to five sacks of grain with the stalks intact. In the evening they thrash the yield to separate the grain from the stalks. They then dry the grain under the sun before storing it

[1] For that reason, Milang abandoned sowing rice in his swidden during the 1994/95 season because the sowing for his daughter's household could not be completed. After completing the sowing, he did sow a few patches of land at his swidden, but none of the rice seeds germinated.

inside storage bins (*tilong*) placed inside the longhouse and when abundant, in a rice hut (*lapo pare*).

Processing grain into rice

Before pounding, the grain is dried in the sun for a few hours to harden the husk. Then they pound the grain in a mortar until it detaches from the husk. After that, they winnow the rice from the husk. To cook the rice, an equal amount of water and rice is poured into a cooking pot. After the water boils and the rice has fully absorbed the water, the fire is snuffed out. The embers retain the heat to let the rice become fully cooked. If the fire were allowed to continue burning, it would be too hot and the bottom layer of rice would be burnt. Instead, the hot embers keep cooking the rice with a lower heat until it is fully cooked. The rice is then served on a tray for common consumption by all household members.

Reciprocal and Individual Labor

The Punan Vuhang use both reciprocal and individual labor to cultivate their swidden fields. Individual labor is the more common and employed when a person is confident that he can carry out all the work processes by himself without the help of others. Reciprocal labor is used by a person who requires the expertise of another individual to work his swidden field. The person then requests the assistance of the skilled person and offers to work for him in exchange. This assistance is usually requested for the difficult tree felling process.

During the early years of rice cultivation, the Punan Vuhang commonly formed work groups. In this system, members of different households cooperated and took turns to work on each other's farms. The work group system that the Punan Vuhang adopted was an unsystematic exchange of labor. The participating members of a group would work on a household's farm until all the work was completed before moving on to another farm. The duration of work was uncertain, and depended on the size of the land and the kind of vegetation growth on the land. There was no measurement of the number of days that an individual worked on other households' swiddens. Only the completion of work for all the households' farms signified the complete cooperation and reciprocal exchange of labor, regardless of whether a person provided more labor than he received.

This work group system significantly differed from that practiced by Kayan cultivators. The Kayan work group involves a systematic exchange of an equal amount of labor, whereby the amount of labor given and received by each household is exactly the same. The number of days that an individual works on another person's farm is reciprocated by the same number of days' work. Also, the work group works evenly for all the members by rotating the work on each member's farm until they complete the cycle before returning to the first household's swidden. This systematic rotation means that the labor exchange is evenly distributed among all the members of the work group.

In contrast, among the Punan Vuhang, the last households to receive the work group's aid were always at a great disadvantage. Towards the end, people were less diligent and the absentee rate was high. Moreover, households whose fields were the last to be cleared would receive the shortest time for the vegetation to dry, despite the fact that the longer the drying period, the better the burn that could be achieved. However, because the

Punan Vuhang's swidden fields are very much smaller, the delay in obtaining labor had less impact, compared to the Kayan who cultivate surplus rice on large swidden fields. Even so, the Punan Vuhang's work group system created severe disadvantages to those households whose fields were worked last. For many years, this unequal cooperative work group system was practiced by the Punan Vuhang. Eventually it was abandoned, and replaced by individual and reciprocal labor.[1]

What eventually caused the breakdown in group cooperative work were irregularities in the labor contribution by work group members. Since the work was continuous and the work contribution not recorded, nobody could remember how many days of work had been contributed by each member on other members' farms. As a result, there was a high absentee rate during the work process. When this happened, some members grumbled and complained that the absent members were avoiding the cooperative work and were ungrateful for the work that other people had done for them. Another factor that led to the breakdown of work groups was the issue of firewood collection. At the end of the day, members collected good wood for firewood from the felled trees. This annoyed some swidden owners who complained that work group members were only interested in collecting firewood.

As a result of these negative remarks, various members began to disassociate themselves from work groups. Instead, they did the work by themselves, thus freeing themselves from obligations to work with others. Eventually, people felt that it was more beneficial to do their own work. Consequently, the cooperative work group system collapsed due to the lack of cooperation and to misunderstandings among the members.

Individual Labor

With the collapse of the work group system, each man now works for himself for the entire duration of the cultivation cycle. Members of a man's household only provide their assistance in the strenuous but monotonous work of sowing, weeding and harvesting. At the onset of the cultivation season, it seems improbable that a single man would be able to clear the forest growth from the land. It is only by patience and hard work that he is able to gradually cut the forest down, bit by bit. The task is extremely monotonous and he works from morning till evening. However, as a hunter, he has been accustomed to performing his activities in isolation, and cultivating in a solitary state is a situation with which he is familiar. This differs from the Kayan who work in work groups because of the need to overcome the "weaknesses" of working alone. For the Kayan, these weaknesses include lack of discipline, loneliness and the monotony of work (Chan 1991:141; Rousseau 1977:138).

Another factor that differentiates the Punan Vuhang from the Kayan is the size of the swidden fields they farm. The Kayan consider rice to be their only staple food and will only eat other food like cassava or sago in times of rice shortage. As such, they need large tracts of land, a condition that requires much manpower to clear. In comparison, the Punan Vuhang subsist on a variety of staple food crops, and therefore require less rice, resulting in the cultivation of much smaller swiddens. Consequently, a man can clear the land all by

[1] Thambiah (1995:10) observed the same lack of orderly function of the workgroup among the Bhuket: "Once their [smaller] farms have been harvested they stop providing the labour due to the others."

himself. However, a person who works by himself and uses only an axe to fell the trees in old secondary forest will face a great deal of difficulty. In this case, he will reciprocate his work with a person who is skilled in using a chainsaw for tree felling. Out of the total number of eighteen individuals who made swiddens, only nine of them did all of the work themselves without exchange of labor in 1994/95.

Reciprocal Labor

A man offers his labor to a person who is an expert in tree felling by clearing the undergrowth on the latter's farm. In return, the skilled person helps to cut the trees by reciprocating work for the same number of days he received help. This exchange of labor is more advantageous to the unskilled person because if he were to fell the trees by himself, it would take much more time. Consequently, he gains "extra" working days by offering just a few days of work.

Another reason for offering reciprocal labor is to obtain the use of a chainsaw. If a person who is skilled in operating a chainsaw owns one that is malfunctioning, he would work for an unskilled chainsaw owner to clear the farm of the latter to gain the right to use the chainsaw on his own swidden.[1]

The following cases illustrate how these exchanges of labor operated in the 1994/94 cultivation season:

Case 1: Kudun helped his elder brother, Jimol, fell trees in Jimol's old secondary forest and this gave him the right to then use Jimol's chainsaw. Kudun and Jimol have a special relationship, being brothers who are married to a niece and a step-aunt. Jimol married the daughter of Nigau who is the stepsister of Ngarik, Kudun's wife. It is interesting that these two households share food at the first sharing level — that is, the biggest shared portion of food resources is with each other. Yet, despite their close relationship, Kudun could not merely borrow the chainsaw.

Case 2: Bawe and Lidut worked on Sayun's swidden in exchange for Sayun's expertise in felling the huge trees on their primary and old secondary forest land. These examples are cases that fall within the reciprocal labor category mentioned above. If these men worked by themselves in felling the huge trees, it would require a very much longer time than obtaining the help from an expert. Consequently, working for Sayun was to their advantage as he reciprocated by completing the work for them in a much shorter time.

Case 3: Uji worked for Jimol to obtain Jimol's labor and chainsaw to cut trees on his land.

All these labor exchanges from members of different households involved felling huge trees. Men who cultivated their swidden from young secondary forest did not participate in any form of labor exchange. There was no need to obtain any assistance as they were capable of felling the trees themselves. The only person who cultivated old forest land but did not get any assistance in tree felling was Naro. He worked by himself because he knew how to operate a chainsaw, and had one himself.

[1] It is for that reason that the Punan Vuhang try very hard to obtain a chainsaw for themselves, as chainsaw owners are extremely reluctant to lend their chainsaws to other people. This is not surprising, as it requires much labor to produce the trade goods needed to obtain a chainsaw.

Another form of labor exchange was the labor contribution of community members who resided in their host's households and joined them for meals. Although they were closely related, it was only right for them to assist their hosts. These included Tarang who helped his brother, Bawe; Lobin who helped his brother-in-law, Lajang; and Nyuling who stayed with his brother-in-law, Jimol. In the case of Tawing, he is the uncle of Sayun and had at one time lived with Sayun after the death of his wife. He later stayed in an empty apartment. Nonetheless, he felt obligated to help Sayun instead of making his own farm. This assistance entitled him to the right to obtain a share of rice from Sayun's swidden. Langat did not feel comfortable staying with his brothers Riyek or Nguwe. After the death of Tawing's wife, Langat followed Tawing, who as mentioned above, had initially stayed with Sayun and who then stayed in an empty apartment. Following the work of Tawing, Langat helped Sayun to cultivate the latter's farm. Probably this labor contribution was to benefit Langat himself as he was too weak to make his own swidden. Because of Sayun's generosity, he knew that Sayun would reciprocate and thus he would be able to obtain a larger share of rice than he really deserved.[1]

Hunting

The Punan Vuhang remain a hunting people despite having become cultivators because they continue to rely on wildlife as their main source of protein. Nonetheless, the amount of hunting has become less due to the availability of a greater variety of cultivated food. Hunting has also changed from an activity based primarily on land to becoming river-based. With the availability of boats and outboard motors, hunters can easily go far upstream to enter hunting grounds farther away. In comparison, during the nomadic times, hunting always took place far in the hinterland and up on the mountain ranges.

Wild boar remains the major focus of hunting, while other types of game have become less important. Most wildlife now has become aware of the human hunters and has adapted to the situation by living far from the settlement and the river banks. Consequently, it is difficult to obtain tree-dwelling game by blowpipes or to trap ground-dwelling animals by noose traps. Hunters have to travel to distant hunting grounds to have a better chance of killing such game. In the mid 1980s, the government issued two shotguns for the community's self-protection. These weapons are now important hunting tools although their use is limited due to a lack of ammunition. Consequently, the use of spears and hunting dogs remains the most important hunting technique.

In contrast to hunting during the mobile economy, hunters now use land routes less frequently to venture to hunting grounds deep in the hinterlands. A few years after the Punan Vuhang settled in 1972, Lajang was the first man to use a boat for hunting. When he killed a wild boar, he did not carry the heavy carcass a great distance back to the settlement. Instead, he carried it a comparatively short distance from the site of the kill to the riverbank

[1] Sayun is a very kind-hearted man who offered to be the Head Deacon. Most people favor him to become the headman in place of his uncle, Nyinyang. However, he had pledged to continue serving as the Head Deacon. It is most likely that he did not desire the post (with government allowance) because he feels that Naro, his second cousin, is more suitable. Because of his generosity, Ngihang, the brother of Sayun's wife's father, stays with him instead of Ngihang's own brother, Kilat, or Sabung, or with his other nieces. Ngihang has deformed fingers and cannot contribute any labor to help Sayun.

and then left the carcass on the bank. He next walked to the boat and paddled it to where he had left the carcass. After that, he merely paddled slowly downriver to the settlement.

This idea caught on with other hunters and hunting has now changed from walking directly into the hinterland to traveling to hunting grounds by boat. Before the arrival of the outboard motor, hunters poled their boats all the way to the Bukor tributary, a journey of several hours. Although the distance was far, hunters did not need to carry the heavy carcass all the way on their backs. Instead, like Lajang, they just had to put the carcass in the boat and paddle back leisurely. However, many individuals, in particular the older hunters, continue to hunt using the traditional manner of walking across land for the entire duration of the hunt. The grounds on which they hunt include the headwaters of the Kebuhor, Sengayan, Lumunung and Petjawa that provide many excellent hunting sites (see Map 9, page 227).

Over the years, it has become increasingly difficult to hunt wild boar near the river as the hunting frequency has increased their wariness. Now, hunters have to travel farther inland from the riverbanks. Also, the availability of outboard motors enables them to travel downriver to reach hunting grounds there. With the use of outboard motors to propel their boats, they can travel with a heavy load back up the river. In the past, before outboard motors were available, it was difficult to pole upstream against the strong current with a boat laden with the carcass of a heavy wild boar.

The use of a shotgun is a favored hunting method as it enables a hunter to stalk fairly close to game and then shoot it still from a distance. If shot in the right spot, the game will die instantly. Without a gun, it is impossible to hunt wild boar by using the traditional *kusi* method of only using a spear. *Kusi* can only be done during the wild boar migration season when the pigs are focusing on their foraging. For some individuals, hunting with guns is preferable to using dogs as they need not pursue the game for a long distance before killing it. With a gun, a hunter merely looks around for fresh wild boar tracks. The tracking is a leisurely activity as the hunter treads lightly on the ground to prevent any brittle twigs from snapping. When a hunter spots a fresh track, the chance of acquiring the game is high. All he needs to do is to follow the track until he hears the grunting sounds of the pig, the munching sounds of its foraging or the snapping of twigs as it moves against small plants. Getting into shooting range, he easily shoots the pigs and rarely misses.

With a gun, hunting can also be done at nighttime. All the hunter needs is a torchlight with sufficient battery power to last for several hours. Before sunset, he poles his boat upstream until he reaches a sufficiently distant spot that will still allow him to slowly paddle back downriver for just a few hours to reach the settlement site.

At nightfall, he slowly paddles and prevents the boat from floating too fast down the river. He points the torchlight on the bank and looks for the reflecting glow of animal's eyes. When the light shines into its eyes, it is temporarily blinded which allows the hunter to aim and shoot before it can escape. When the glow of the light reflects the game that he wants, such as a wild boar, a deer, a barking deer or even a mousedeer, the hunter quickly aims at the target by holding the torchlight together with the gun. His other hand pulls the gun's trigger. Usually, the shot is accurate as he aims at the forehead between the eyes. Shot in the forehead, an animal dies instantly. Occasionally the shot misses the vulnerable spot and hits the animal's body. When this happens, the victim is likely to succumb slowly by bleeding

to death. After shooting, the hunter quickly paddles to the riverbank and ties up the boat. Then, using his torchlight, he looks for blood to follow its trail. Under the cover of darkness, the game sometimes does not run far away, thus offering another opportunity to shoot it. If it runs too far away, it is difficult to track, and may manage to escape.

Blowpipe hunting is no longer practiced because the animals have become so avoidant due to the continued presence of hunters. To successfully obtain any game with a blowpipe, the hunter would have to go very far into the hinterlands, but the yield is not commensurate with the effort, as it requires a high expenditure of energy and time to reach those areas. A hunter will only search for such game when a member of the household is sick and desires to eat a tree-dwelling animal. The Punan Vuhang do not favor pork when they are sick because the high fat content makes them feel nauseous. When the need arises, a hunter borrows a gun from one of the two individuals who have been given the right to handle the shotguns.

The adaptation of avoidant behavior by ground-dwelling animals towards noose traps has also rendered this trapping method useless. As a result, hunters do not set traps anymore. To do so, they would have to go to distant trapping grounds and, again, the return is not proportionate to the distant daily walk to check on the traps. The only time when the people did so was in 1993 when traders requested them to trap porcupines to obtain bezoar stones that then fetched very high prices. A stone the size of a thumb could be sold for up to a thousand ringgit. However, very few porcupines that were trapped contained stones and the most expensive one was sold for only RM 500.00. The people eventually abandoned the activity when no more stones were found, although some traps did catch a few birds, mousedeer, and civet.

Fishing

Fish have become more important after sedenterization because of the availability of boats and fishnets. Luhat Tehin, a very old man, is the only person to continue to use an *ovow luyuk* spawning trap. As during nomadic times, the people mainly fish at times when wild boar are not available. During the monthly visit of the Flying Doctor Service, some people catch fish to sell to the medical staff.

As fishing is a common practice done by many communities and has been described in detail (e.g., Chin 1985), I only briefly mention some fishing activities and only provide a bit more detail on those that seem unusual. A fishing expedition usually requires two persons to assist each other. They paddle and pole their boat to big bays far upstream from the settlement where the river is rarely disturbed by the community. The best location is the Laput Bangan estuary which contains the most abundant fish in the whole of the Kajang River. Other bays around that area also contain numerous fish. When the fishermen reach a bay, the front man stands on the front tip of the boat and prepares to cast out the cast net. He throws a stone at a spot that has no sunken wood at the bottom. This is important, as the wood would entangle the net. As the stone hits the water, it acts as bait that resembles a ripe fruit dropping into the river. The fish in the bay quickly swim to eat the “fruit.” The individual then casts the net which spreads out wide over the spot. As the net sinks, it

> spreads out fully and the weighted circumference hits the water simultaneously; the weights cause the circumference to sink quickly and then gradually come together enclosing whatever fish that might be caught. The net is then drawn up by the rope held in the hand (Chin 1985:106-107).[1]

If the bay is small, he only casts his net once. In the bigger bays he casts about 2-4 times.[2] Then he fixes two gill nets, one blocking the upstream part of the bay. Next he sets another net over a tree base that has roots protruding into the water. The spaces between the submerged roots provide hiding places for the fish when under threat. After that, he uses the pole for poking into the roots to force out the fish. His partner meanwhile hits the water with his pole to produce a slapping sound which frightens the fish. With the intrusion into their hiding places and the noise, the fish dart around frantically. When they swim into the invisible gill net, they are caught.

The number of fish that can be trapped depends on the number of fish in the bay. However, those fish that are used to this disturbance have learned to remain in their hiding places and it is usually only the smaller fish that are caught by this method. The further the fishing team goes up into the headwaters, the bigger and more fish they are able to catch, as these fish are less experienced with trapping. When they catch a big fish, bigger than a forearm, they tie it through its jaw with a rattan strip to a submerged piece of wood. This keeps the fish alive for collection on their way back. Fish to be consumed are immediately killed by snapping their gills, lest they flip over the side of the boat and escape. During a long expedition that requires a whole day of fishing, the fishermen are likely to camp overnight. They leave the gill nets in the bigger bays and some fish will be caught overnight as they swim into the nets.

The use of cast nets and gill nets is only practical during dry periods when the river is low. After a heavy rainfall, it requires about a week for the water level to subside to a favorable level. In shallow water, the fish avoid the most shallow parts of the river and seek shelter in the big bays. With the fish concentrated in the bays, it is easier to trap them. In contrast, during high water, the fish swim from the bays and many enter the tributaries to seek the abundant food available there. As a result, the Punan Vuhang only attempt to catch fish sold for cash to the Flying Doctor Service personnel during low water.

Other Crops

The Punan Vuhang cultivate a variety of crops to supplement their rice and cassava. Unlike the Kayan who consume only rice except during lean times, the Punan Vuhang consume cassava (*Manihot esculenta* Crantz; *ubi*), sweet potatoes *(Ipomoea batatas*; *ubi okar*), yams (*Colocosia esculenta*; *cukai*) and bananas (*Musa sapientum* L.; *puti*) as other staple foods. Like all sedentary communities, they also cultivate various vegetable

[1] The cast net purchased from traders "is a circular net usually 4 - 6 m in diameter with lead weights around the circumference. A rope is attached to the center, the end of which is held in the hand as the net is cast" (Chin 1985:106).

[2] At the headwaters of the Kajang River, the width of the river is narrow and the depth shallow. The bigger bays measure between forty to sixty feet wide. As such, the fish are easily disturbed in the small volume of water.

crops as side dishes. In certain locations within the swidden, they plant fruit trees. All these crops can be classified into four types: staple crops, short term and mid-term crops, and permanent or perennial crops.

Staple Foods

After he has sown his rice, a cultivator plants cassava stems measuring half a foot long in the swidden fields. He inserts the stem at an angle of about 30° to the ground surface to enable tubers to grow more profusely than when planted at a right angle. The cassava crop requires a few months for the tubers to form. The people usually harvest it the following year to obtain tubers that are about the size of a man's forearm. Besides the required size, an extended growth period enables the tubers to gain more maturity and acquire more starch. The Punan Vuhang occasionally grate the mature cassava tubers to process them into starch, a type of food quite similar to sago starch. Occasionally when the Punan Vuhang feel nostalgic for eating sago paste (*linut*), they process cassava into this dish. Otherwise they will just boil the tuber. Also, they fry the grated cassava in pig lard to form *kasai* which is quite similar to the sago *kasai*, although both the cassava *linut* and *kasai* are less tasty compared to starch processed from sago.

A Punan Vuhang woman uses a working knife to extract the cassava tuber by first digging the soil at the plant base. When the soil is loosened, she pulls out the tubers. For tubers that still remain, she continues digging until she can pull them out. Cassava harvesting is usually done by a group of women or an old man alone. The work is easy and a person only needs to extract a basketful of tubers for two or three days' consumption. The proximity of the swidden to the settlement gives the women a sense of security that allows them to go without the company of a man.

The cassava crop is harvested over a year. The following year, the plants are abandoned after harvesting to establish new roots and tubers. However, this self-propagating crop produces a low quality yield. Moreover, secondary forest growth may hinder its growth.

The Punan Vuhang also cultivate bananas by planting young shoots that they have dug up from established banana clumps. The banana shoots require a long time to grow. After maturity, they produce offshoots which perpetuate their growth. As the plants continue to produce offshoots, the fruits mature and ripen at different times. Consequently, the people harvest their bananas over a long period. Besides eating this fruit as a snack, they cook it in lard to produce banana paste (*kasai puti*). Occasionally, they boil raw bananas and then mash the fruit into a pulp to eat as a staple in place of rice.

The Punan Vuhang maintain a banana garden by clearing around the plants' base. Otherwise, secondary growth will compete for nutrients and sunlight. After a few years, the garden is abandoned as it is too tedious to continue clearing the land. Banana plants in fields close to the settlement are properly maintained and so become a long-term crop.

The Punan Vuhang only plant maize when its seeds are available. The people do not fancy eating this food as the breed commonly planted in the swidden is tough and tasteless. If they do want to grow it, they cultivate maize in swidden fields together with rice.

Short-term Crops

These plants are cultivated in the swidden, and after harvesting, the crops are abandoned. Depending on availability of seeds, they plant vegetables, gourds and cucumbers. These foods are eaten as side dishes. Usually by the time the rice ripens, these crops are mature.

Tobacco is an important crop although only those who smoke tobacco cultivate it. They plant tobacco seeds on fertile spots with the highest concentration of burnt biomass. When the plant achieves maturity, the leaves are plucked and then cut into thin shreds. Then the leaves are placed in the sun to dry. The Punan Vuhang use a type of broad jungle leaf in which to roll the tobacco for smoking.

Mid-term Crops

Mid-term crops include sugarcane (*Saccharum officinarum* L.*; tabu*) and papaya (*Carica papaya*; *modung*) that continue to be harvested until secondary forest growth overwhelms them. As such, these crops are harvested for up to two years after planting. Although these two crops are nourishing, their yield is small and the Punan Vuhang do not consider them worthwhile for maintenance longer than two years.

Perennial Crops

The Punan Vuhang cultivate fruit trees along the river banks, especially at the confluence of a small stream that acts as a boundary to the next owner's land. These concentrated fruit groves are carefully maintained. During clearing for rice cultivation, the fruit trees are not felled. Consequently, the trees are planted near boundaries so that the fruit grove does not take up too much land. During the firing of fields, care is taken to ensure that these trees do not burn. Land close to the settlement is turned into small fruit gardens, so now, during the fruit season, the Punan Vuhang do not have to go far to harvest fruit.

Among the varieties of fruit commonly planted that are favored by the Punan Vuhang are durians (*Durio zibethinus* Murr.; *luyan*), mangoes (*Mangifera pajang* Kost.; *pangin*), jade fruits (*Artocarpus heterophyllus*; *bado'*), rambutans (*Nephelim lappaceum.*; *beliti)*, a bristly-haired rambutan-like fruit (*Nephelium mutabile Bl.*; *N. uncinatum*; *avong*), and a longan-like fruit (*Pometia pinnata* Forst.; *Xerospermum sp.*; *Dimocarpus longan* Lour; *isau*). Other fruits that are planted but not much favored due to their sour taste are, for example, oranges (*Citrus reticulata* Blanco; *Citrus sinensis*; *limo kanying*), limes (*Citrus aurantifolia*; *limo mohom*), pomelos (*Citrus grandis*; *limo ayok tup*), and pineapples (*Ananas comosus*; a*rok san*). Coconuts (*Cocos nucifera* L.; *nyiur*) also are not much favored because of the difficulty of climbing the tree.

The Punan Vuhang cultivate fruit trees by two methods. The first is to clear around a tree seedling that was self-propagated. This is called *ngalasik*. Around the settlement compound there are many fruit trees cultivated in this way because during the fruit season, the people simply spit out the seeds which then germinate into seedlings. Seedlings growing too close to the longhouse are removed, as when they mature, their dry branches might drop and damage the longhouse. Only seedlings found fifteen to twenty feet away from the longhouse are allowed to grow.

A person who wants to "own" a seedling sticks a few sticks in the ground around it to indicate ownership. He then maintains its growth by clearing the surrounding soil until it matures. The second method involves replanting the seedlings into a selected site at the edge of a swidden field. The seedlings are usually obtained from self-propagated seedlings. The people also selectively breed fruit trees by planting seeds taken from trees known to produce good yields.

Collecting Activities

After the short-term vegetable crops in the swidden have stopped yielding, the Punan Vuhang rely on a variety of non-cultivated plants for food, including domesticated plants that have regenerated. They consume ferns (*Stenochlaena palustris*; *paku paya*), bamboo shoots, cassava shoots (*Manihot esculenta* Crantz) and sago shoots (*Eugeissona utilis* Becc.). Except for sago shoots, these foods typically grow near the settlement. Cassava shoots are the most common and are found in abundance in swiddens, including abandoned swiddens next to the longhouse. Women, as well as young girls, pluck the shoots and then pound the leaf shoots into pulp in a mortar. Cooked alone or with a mixture of meat, cassava shoots are a main side dish when meat is not available. The Punan Vuhang do not favor ferns except for an occasional meal to break the monotony of depending too much on cassava leaf shoots. Ferns are easy to find as the surrounding river banks have an abundance of them. Bamboo shoots are seasonal and only those plants near the settlement are harvested. In distant areas, hunters who are unsuccessful gather the shoots when they come across them. Similarly, hunters deliberately harvest sago shoots from distant grounds only during unsuccessful hunts. However, when a hunter has successfully obtained game and passes an area with sago growth, he will cut some pith for cooking with the meat as that produces a delicious dish.

Another important collecting activity is gathering firewood. The men take big trunks of quality firewood from forest trees at a distance from the settlement. Groups of women, for their part, also collect firewood from the nearby forest. During the wild boar migration season, when cooking is much more frequent and takes much more time, firewood gathering is more intensive. Good quality wood is found in primary and old secondary forest. Hunters usually transport the big logs in their boats on the downriver journey when returning from hunting. At the settlement site, if the logs are more than one and half feet in diameter, a man will split them into four pieces so that his spouse can further split them into kindling.

The combination of these diverse activities, including shifting cultivation, hunting, fishing, gathering and barter-trading (discussed below) has resulted in the Punan Vuhang adopting an economy that is not much different from other longhouse dwellers in the Balui. The main difference is in how shifting cultivation is performed. Here, individual labor seems to be much more frequent compared to the cooperative work groups favored by others. A further change in the economy can be seen in the following section on commoditization.

Barter Trading

This section looks into the development of barter trading among the Punan Vuhang, an economic activity in which they have increasingly participated over the last two and a half decades. With settlement at the mid-Kajang River, traders now take a week's journey to the Punan Vuhang instead of three or more months in the past. The introduction of outboard motors in the 1970s permits a small party to conduct trading. In fact, two Kenyah men regularly operate alone, although trading parties most often comprise three or four trading partners. Consequently, any enterprising individual can undertake trade with the Punan Vuhang.

The commencement of the Bakun Hydroelectric Dam Project in late 1994 resulted in a greater intensity of trading. The government's plan to compensate for houses that will be submerged by the reservoir has motivated many more individuals to trade. From profits gained through trading, they buy building materials to modify their houses in order to obtain larger compensations. Some of them who had not even owned an apartment are now motivated to build their own houses. Consequently, trading parties go out more frequently. When not engaged in farm work, a trading group comes to trade with the Punan Vuhang every two or three months at least, and at times more often.

The increased amount of trading has impacted Punan Vuhang life, and the items traded have also changed. Several items that were in great demand in the past are no longer needed, while a new array of goods are now required. Items such as metal tools are no longer desired by the Punan Vuhang from the traders, as they can obtain knives from Penan blacksmiths at downriver Penan settlements.[1] Similarly, cultivated tobacco is not traded anymore as the Punan Vuhang cultivate their own tobacco. To perpetuate trading, the traders have introduced new goods to attract people's attention. They have also introduced the highly addictive *Bangau* brand tobacco (*lokok lokong*) which produces a strong effect on the person who smokes it. The Table below shows the prices of some common items that were not brought to the people during nomadic times, but are now available.

The availability of these consumer goods has produced new desires and the Punan Vuhang are no longer a people with low material needs as was the case during nomadic times. When traders are present, the Punan Vuhang become excited by the array of goods. First, they trade for the desired goods with rattan products that they have already woven in anticipation of the traders' arrival. These desired products include biscuits or cream crackers, instant noodles, sugar and coffee or tea. After consuming these "instant foods," they obtain other materials that are more durable, such as clothes, batteries, torchlights and soap.

During the few days traders are present, the Punan Vuhang exchange other materials for the traders' products. Early in the traders' visit, the Punan Vuhang sell off the rattan products they have already made, and then the traders sell more products by giving credit to the people. Following that, the people diligently weave more products to pay off the debts. After a few days, much of the debt will be paid off and the traders will leave. The

[1] Some Penan are specialists in knife making. They obtain iron bars from Belaga to fashion into knives. Each knife only costs RM 10.00 and the Punan Vuhang find it more worthwhile buying knives than spending time making their own.

traders cannot afford to wait too long for the people to complete their products as the small amount of debt is not commensurate with the expenses of staying longer.

Table 20: Commonly Traded Goods and Price Sold among the Punan Vuhang, 1994/95

Item	Punan Vuhang	Unit	Price in RM
patterned basket	*ajat kalong*	1	10.00
mesh basket	*ajat kawang*	1	4.00
basket bottom	*lutuk ajat*	1	1.00
shoulder strap	*oii*	1 pair	0.50
mat	*nyam*	1	100.00
sugar	*gulak*	1 kg.	5.00
Salt	*siau*	1 kg.	5.00
Monosodium Glutamate	*aji*	1 packet	5.00
coffee	*kopi*	1 tin	10.00
tea	*teh*	1 packet	5.00
instant noodles	*mee*	1 packet	2.00
cream cracker	*lotik*	1 packet	10.00
Tobacco	*lokok lokong*	1 packet	10.00
An addictive drug	*Kaki*	1 packet	5.00
battery	*batun pui*	1	2.00
torchlight	*tokik*	1	20.00
sarong	*celeyon*	1 piece	10.00
petrol fuel	*minyak motor*	1 gallon	30.00
soap	*kabun*	1 piece	2.00

Note: At exchange rate of 1 Euro to RM4.50 or USD1 to RM3.80 in June 2005.

While all these materials are not essential, the craving for a new item—*Kaki*, a type of drug that relieves headache and fever—intensifies the trading. The effect of the drug is immediate in suppressing their discomfort; it also relieves them of lethargy and gives them a sense of well-being.

This new drug was introduced by two young Punan Vuhang individuals who attended an adult school in Belaga in the 1970s. After completing school, Tanyut then worked as a hospital attendant in Kapit and Lobin served in a rural health clinic at the Baleh headwaters. Over time, they could not stand the regimented lifestyle that required observance of various rules and regulations. They were also unfamiliar with life outside their former environment. They returned and brought along the Three-Legged brand drug (commonly known as *Kaki-Tiga*) which was a very common drug taken by the Iban community who live in the Kapit region. When their household members were sick, they gave them the drug. It was easy to take as a person merely mixed a little of the powder in some water and then drank the concoction. The effect was immediate. After that, whenever an individual felt unwell, he or she would take this drug. Unfortunately, the people did not

know that the drug was addictive, so after taking it several times, they became addicted and craved its soothing effect even though they were feeling well.

Eventually the drug ran out and traders were asked to bring it on their trading expeditions. Initially the traders brought only a little, but the consumption increased. As more and more of the drug was brought, the people became increasingly addicted and they found it to have more uses. When they felt tired or hungry, the drug relieved them of their uncomfortable feelings. It also provided relief for their lethargy during the monotonous rattan weaving (some of which was to make products to trade for more *Kaki Tiga*) and the long period of hunting and cultivation activities. Before long, most of them became addicted to it. As they asked the traders to bring in the drug in larger amounts, some well-meaning traders warned them of the side-effects. By then, it was too late as the people were already hooked. The doctors and the medical staff who flew in once a month by helicopter were also aware of the problem and frequently advised them of the ill-effects. However, it was of no avail and the number of addicts increased.

If traders came without *Kaki*, they would be chided by the people who would exclaim how could they live without *Kaki* and that they would die without it. The demand is guaranteed and trading is extremely profitable. The drug in a powder form is light and extremely easy to carry, and one person can carry at least four boxes of *Kaki*. Each box containing 50 packets, is bought for RM125.00 in Belaga (at RM 2.50 per packet). Among the Punan Vuhang, the trader sells the drug for RM 5.00 per packet. With the exchange of two packets (RM 10.00), he obtains a basket worth RM 10.00 in Belaga. At a cost of RM 5.00 for two packets, he makes a profit of RM 5.00 for selling the basket. From a box of drugs bought at RM 125.00, he is therefore able to make a profit of RM125.00. Since the drug is so light and easily transportable, a trader can bring as much of it as possible without needing expensive porters. Any remaining unsold portion can be brought back by the trader and then taken for trading again.

In recent years, Balan Asan, a Badeng trader from the Long Geng community, has introduced a new form of commodity exchange by selling chainsaws and outboard motors through credit. A chainsaw costs about RM1000.00 and a 3-horsepower outboard motor costs RM850.00. Households that obtain these machines have to work hard to produce mats and designed baskets to pay off the debts. Because of the large size of the debts, it takes about a year for them to finish paying.

With the purchase of these motorized “tools,” petrol fuel is needed. As of 1995, while traders do bring petrol and sell it at RM 30.00 per gallon, most Punan Vuhang would rather make the three-day journey to the nearest logging camp to purchase petrol at RM 11.00 per gallon (compared to about RM 5.00 in Kuching). As cash to buy petrol is needed, most Punan Vuhang want to sell their products for cash. However, very few traders want to buy the rattan products for cash as they do not make any profit doing so because the Punan Vuhang only sell their mats for the same price they get in the Belaga bazaar. The trader then does not make any profit if he sells the mat in the same place for the same price. Only a few young traders who have traveled extensively and who do their transactions in the main towns of Kuching and Miri will pay for the products in cash. In these towns, the rattan products are sold for one and a half times more than the price in Belaga. Besides, these traders also buy certain tradable items at cheaper prices than in Belaga, thus making an extra profit in their

trading. Punan Vuhang households who have need for cash will generally keep one or two mats for these traders with cash. Nonetheless, these traders visit them only occasionally.

With greater needs of consumable items and to pay off loans extended by the traders, every able-bodied household member has to work diligently to produce these commodities. The men have to go to the forest regularly to collect rattan vines. When there is a need to produce mats which will require a great many vines, the men will go on rattan collecting expeditions and will camp in distant areas that have an abundance of rattan vines. Boys will follow their fathers or uncles in these collecting expeditions to procure more rattan. The duration of these expeditions ranges from camping overnight to three days, depending on the availability of rattan and the quantity they need.

The women too have to work hard. A mat takes about two to three weeks to weave depending on the other tasks a woman has to handle. A big mat measuring 5 by 5 feet and a half is sold for RM 100.00. A basket decorated with designs (*ajat kalong*) takes a day or so to weave and is worth RM 10.00. They do the work in the mornings and afternoons when they are free from other tasks. At night they weave together and a few persons share a diesel lamp for light. To contribute more income, the men weave meshed baskets (*ajat kawang*) that sell for RM 4.00. Other men weave shoulder straps (*oii*), with a pair worth RM 0.50, and basket bottoms (*lutuk ajat*). The basket bottom is sold for RM 1.00 to a weaver who will then attach it to a basket decorated with designs.

The people work with full concentration as they focus on weaving. During the night, when everybody is gathered around, they entertain themselves by telling stories, playing the guitar-like *sape* or playing the tape recorder and dancing. The work is repetitive, monotonous and boring. These forms of entertainment help them to get through the night's work. The people seem very diligent producing the rattan products day and night. However, the craving for *Kaki* is the motivation to do the work. A person jokes about it, "*Pinak kai mek we, kai nyokonu Kaki ivak*" — "When we weave rattan-work, we think only of *Kaki*." Otherwise, the people would not have much incentive to do this tiresome work.

Conclusion

The adoption of cultivation and a sedentary life have considerably changed Punan Vuhang livelihood. From being a mobile hunter-gatherer community that exploited a large territory, they have now become settled permanently in a longhouse and cultivate the surrounding land. With the ability to substantially control the yield of cultivated crops, they are able to produce a consistent and sufficient food supply that sustains them throughout the year. Being a people who do not consume farm-raised pigs and chickens, they continue to hunt wild boar and fish to obtain protein. They also consume much fruit, both from cultivated and wild trees. In addition, they collect rattan for weaving into mats and baskets as a means to acquire materials from the outside world through barter trade. Cash has now become important to buy petrol for operating chainsaws and outboard motors.

In the near future, the logging industry, with its extending road penetrating further and further into the remote corners of the forest, will reach Punan Vuhang country. It is likely that when a road reaches their settlement, they will become involved not only in subsistence, but also, eventually, in cash crop cultivation.

Chapter Ten: Resource Tenure – Sedentism and the Current Crisis of Legal Recognition

Introduction

The transition from a nomadic to a sedentary way of life has drastically changed Punan Vuhang perceptions regarding several resources that were once worthless to them. Land, in particular, has now gained importance as a resource for cultivation purposes. Another resource, trees, used for constructing boats and houses, is now treated as private property by several individuals. On the other hand, freedom from dependence on forest products for survival has resulted in the Punan Vuhang no longer establishing rights to some former food resources. For instance, fewer people now establish claims over sago palms as private property.

Adoption of cultivation has brought new property rights for cultivated crops. The Punan Vuhang accord private property rights to all cultivated crops, but consider a food crop that self-propagates after harvesting as open-access property. On the other hand, they consider permanent crops, such as fruit trees, private property. The establishment of exclusive private rights over cultivated crops is based on a recognition of the effort required to cultivate them. Planting requires many difficult labor processes. First, a farmer clears a piece of land of trees. Next, he waits a month for the felled vegetation to dry before burning. Then, after planting, the crop requires maintenance. Hence, it is only reasonable for the Punan to recognize the exclusive right of a cultivator over his plants (see Sellato (1994:193) on the development of private property). According to this perspective, cultivated food does not fall within the sharing system. Only under special circumstances does a person feel obliged to share his yield.

Following a discussion of the above, I will deal with a legal crisis that the Punan Vuhang will eventually face as the State's codified laws do not provide any recognition of their resource tenure rights.

Perennial Crops

The Punan Vuhang establish private property rights in perpetuity to perennial crops, in particular, tree crops. The people establish rights over fruit trees through two methods, one, growing the tree from seed, and second, establishing rights to a self-propagated seedling (*ngalasik*). The first method involves deliberately planting fruit trees on the farm, usually at the edges of the swidden to identify the boundary between other swidden fields. On land near the settlement, they plant orchards of fruit trees so that the owners need not go far to harvest the fruits. On the other hand, plants also sprout by themselves from seeds spat out while the fruits are being eaten.

Rights can be established to seedlings discovered at the edge of a settlement compound. Seedlings found close to the longhouse, however, are not allowed to grow for as the trees age, their branches might fall onto the longhouse.

While fruit trees are regarded as private property due to their perennial growth, the Punan Vuhang also consider a banana tree as private property despite its limited life span. A banana tree, after bearing fruit, rots and dies. However, at the base of a banana plant, shoots emerge to perpetuate the plant, producing a clump of banana trees that continue to produce

shoots for further growth. Therefore, the community considers banana plants to be private property and recognizes the right of a cultivator to retain ownership of a banana clump. This right includes all plants that grow within the area of the first cultivated plant.

While a cultivator holds absolute rights to all of his fruit trees, it is his obligation to share the fruit with other people when the yield is abundant. If it is sparse, the rights holder consumes it with his household and gives some to his nephews and nieces. If the yield is more than enough for his household, he invites kinsmen to participate in the harvesting. If there is an abundant yield, he invites the whole community to harvest it together. During this communal harvesting, the members only pluck the ripe fruit, leaving the partially ripened fruit for the cultivator.

Although the right is exclusive, the owners' siblings and their children can pick the fruits without his permission, unless the rights holder shows displeasure. Since many fruit trees are planted close to the settlement, they are easily harvested by kinsmen. If the owner does not make a big fuss over the matter, the kinsmen will pick the fruit without considering his feelings. On the other hand, if the owner openly shows his or her displeasure, kinsmen will not take the fruit.

Rights holders, however, do not share their bananas. The banana tree is non-seasonal and yields in small quantities. If a kinsman takes the fruit, there will not be anything left for the cultivator. Nonetheless, if the fruit is almost ripe and remains on the tree, a kinsman can help to harvest the fruit for the owner. He brings the entire bunch of bananas to the owner's apartment and he will be rewarded for his assistance. While the owner holds exclusive rights to the fruit, he has an obligation to share with any immediate kinsmen who requests some for cooking as a staple dish. Also, he freely gives ripe fruit to children.

Short-Term Crops

A cultivator holds exclusive private rights to short-term crops in the swidden. These include rice, tapioca, tobacco and vegetable crops.[1] Due to their short-term nature, the right is not permanent and lapses after harvesting. This impermanence of rights includes any tapioca that self-propagates after harvesting. An abandoned tapioca stalk does not decay, but instead grows roots to generate new growth. When these root plants mature, the people consider them open-access property that anybody can take. Rights to tobacco are also impermanent. The big leaves that generate quality tobacco are the private property of the cultivator, who generally disregards small leaves remaining on the stalks.[2] The small leaves remaining behind become open-access property. Anyone can pick them without seeking permission, unless someone else has first reserved the right to harvest the leaves.

The Punan Vuhang consider sugarcane (*Saccharum officinarum* L.; *tabu*) as different from other resources and therefore maintain a different system of rights over it. The

[1] A close relative who obtains permission to acquire a little yield sufficient for a few meals can invite a few others to participate in harvesting together.

[2] The cultivator processes the tobacco leaves by slicing them into fine pieces and putting them out to dry in the sun. He or she may have time to process only the larger leaves, abandoning the smaller ones. As a result, anyone can harvest the leftover leaves, although most households ignore them because they own tobacco of their own. Only old people who do not cultivate a farm may be interested in the abandoned leaves.

Punan Vuhang cultivate sugarcane at the swidden field for its juice, and chew the canes as a snack. Sugarcane is planted by inserting the stems into the ground. The stems take root and when mature, produce offshoots that perpetuate their growth. The second growth stage of the canes produces the most succulent juice. As the swidden is not maintained by the cultivator, weeds dominate the land and compete for nutrients with the sugarcane. Consequently, the canes that grow after the second stage lack nutrients and do not produce as much flavor. Since there is no maintenance of the plants, exclusive rights to the sugarcane are then relinquished after the second growth stage. Nonetheless, it is discourteous to take all the canes, unless the land has totally reverted to secondary trees.

A cultivator does not give away the canes that grow in the second stage. If a person asks for some of them, the rights holder will say that the canes are in the second stage, indicating his reluctance to give them away. Therefore, an individual who knows that the canes are in the second growth stage will not ask for any of them. He expects the owner to be reluctant to give them away, unless the cultivator is extremely generous or closely related to him. Nonetheless, the rights holder does not refuse to give some if it is for a small child who is crying for sugarcane.[1]

As seen in the above description, exclusive rights over crops in a swidden only cover the first season's cultivation, except for sugarcane. After the harvesting of rice, the land gradually turns into bush land. Any plants that self-perpetuate become open-access property—unless the plants are maintained by the cultivator. This conversion of the crops from private property to open-access property reinforces the notion that the establishment of rights to a crop is based on the effort of cultivation.

When a cultivator does not make any effort to maintain a crop that self-propagates, he relinquishes his rights to it. This situation generally applies to pineapple and tuber crops such as potatoes and yams. The tips cut from pineapple fruits and the discarded stalks and skins from tuber plants generate roots to establish further growth. Generally, the Punan Vuhang simply throw the useless stems and skins behind the longhouse. When these plants mature and produce yields, the product becomes an open-access property. Usually, a person only claims rights to crops growing on his portion of the land when he makes an effort to remove the weeds. The community then recognizes his effort and recognizes his right to these crops.

Arenga Undulatifolia* Sago, *Nyamakoh

The Punan Vuhang regarded *Arenga* (*nyamakoh*), a sago species, as an open-access property during nomadic times, but now consider some of the palms private property. The *Arenga* is a solitary plant that grows spaced out over a large area. Because of that, the Punan Vuhang rarely rely upon it as an important food source. Besides, it only grows in areas downriver from the mid-Kajang River, localities which the Punan Vuhang rarely frequented before becoming sedentary. Generally, a person only attempted to harvest it

[1] Usually a cultivator who has a small child will have already harvested all his sugarcane for his child. So when the child, used to sucking the sweet juice from the cane, cries for some more, there is nothing left to give him.

upon the accidental sighting of a mature *Arenga.* Because of its scarcity and solitary growth, the community did not accord private property rights to a seedling. Also, it did not serve any purpose to establish rights to it, because when the Punan returned to the area later, it was difficult to recall the location of the solitary clumps.

The establishment of rights over the *Arenga* species of sago is a new phenomenon that the community initiated after becoming sedentary. In 1968, after the adoption of cultivation, Pua Mean became the first Punan Vuhang to attempt to cultivate *Arenga*. He found a sago seedling that had self-propagated, and he cleared the surrounding land to mark the establishment of *ngalasik* rights over the growth. The seedling grew into a big palm. This growth encouraged Pua and in 1972 he attempted growing *Arenga* from seeds. After the seeds sprouted, he transferred the seedlings to a swidden and succeeded in growing them. Kilat Ngeting followed suit by transferring seedlings growing in the forest to his swidden. Since then, many people have been cultivating *Arenga*. Nevertheless, most of them establish *ngalasik* rights over seedlings found in the forest floor by the traditional means of clearing around the seedlings, instead of growing *Arenga* from seeds. At first, they only established rights to seedlings sighted along the bank of the Kajang River. In recent years, however, members of the community have established rights to most *Arenga* seedlings growing within areas accessible to the settlement.

Cultivation of *Eugeissona Utilis* Sago, *Tajuk*

Although rights have been established over *Eugeissona* since time immemorial, the Punan Vuhang only cultivated it from seeds beginning in 1982. One successful attempt to grow *Eugeissona* from seeds induced others to follow suit, and by now, six individuals have cultivated *Eugeissona* within the vicinity of the old longhouse site.

After the adoption of rice cultivation, *Eugeissona* growing in distant areas lost importance. Only a few men continue to establish rights over it as a precaution against famine. This sago resource which was once highly valued as the most important staple food is now relegated to being a resource only exploited during food scarcity. Occasionally, however, a person harvests a little of it when he feels nostalgic about eating the *linut* sago paste. Also, despite no longer regarding *Eugeissona* as a source of staple food, the Punan Vuhang continue to gather the young palms for their delicious shoots. When returning from hunting or rattan collecting, the men frequently cut some shoots for immediate consumption, and bring some back for their household members.

Materials for Building Houses

Before becoming sedentary, Punan Vuhang constructed lean-to shelters wherever they camped. They obtained the necessary wood materials from within the vicinity of the camp. The main items that they required were small trees about two inches in diameter (*kayu laroh*), and these were found in abundance. Due to the ease in obtaining this wood, the Punan Vuhang considered it open-access property.

The Punan Vuhang only established rights over felled trees and thatch leaves (*Licuala valida* Becc.; *laun silat*) that they had slashed for immediate construction. This rule of open-access property rights to these small trees and thatch leaves continued even after the

community had settled permanently. After becoming sedentary in 1968, they continued to live in the traditional *lapo* houses which they constructed from small trees.

In 1975 the government brought in corrugated zinc and tools to build durable houses for the Punan Vuhang. The people used big trees from the nearby forest for sawing into posts, columns and planks. From this experience, the Punan Vuhang realized the need to establish rights to suitable trees for future construction. Nonetheless, only a few men established rights to those trees accessible to the river, especially those upriver from the settlement. The trees upriver are more important because the wood can be floated down easily. In contrast, the men have to use boats with outboard motors to transport the materials if they bring them back from downriver.

Some years after the construction of the longhouse in 1975, households with young household heads added their apartments to the main longhouse. Several of them constructed their houses over a wet area. Not long after, the posts standing on the wet ground decayed. These households informed the government authority about the situation and requested assistance. As early as 1986, when Naro Pua visited Kuching, he was informed of an impending government housing project for the community.

When Naro returned to the settlement, he informed the community of the planned housing project. The people had a meeting to choose the new longhouse location. They realized that construction of the new longhouse would require many trees for sawing into posts, columns and planks. The trees needed included the hardwood trees of *avang vireh* and *teggelam kavok* for making posts, and *avang buang* and *Shorea spp.* (*manator*) for making columns and planks. Other trees suitable for construction included *nyuvulu*, *tebulu manok* and *tanok*. To obtain these materials, the longhouse site should be near to places with an abundance of suitable trees. This proximity would not require distant and difficult transporting of the wood to the longhouse site. They decided that the new longhouse site should be located at the mouth of the Sengayan River where many suitable trees could be found.

During the meeting, they also decided that each household member should establish rights to suitable trees for house construction. Since the trees were abundant in the forest, most of the people delayed doing so and thought of establishing rights only after delivery of the housing materials by the government. However, since the delivery of housing materials only came in 1992, six years after the first notice, in the long interim, few people believed that the government would actually deliver the materials. Consequently, only three men established rights to trees, with Naro marking a number of quality trees. Most of these trees were located near the confluence of the Sengayan, the site of the new longhouse.

In 1992, the government delivered the materials and the community planted rice for the 1993/94 rice season at the Sengayan tributary's confluence to clear land for the new longhouse site. However, several members changed their minds and wanted to make their houses at the old site where many fruit trees are located. They reasoned that by staying near the fruit gardens, during the fruit season, they would not have to travel far to obtain fruits. Consequently, in 1993, the majority decided to return to the old site and the whole community constructed the new longhouse next to the old site.

Those who had established rights to trees near the Sengayan, immediately established rights to trees farther up the Kajang River. The men who had established rights

earlier faced less problems transporting the wood. Others who were slow in establishing rights had to travel far and walk long distances carrying sawn planks on their shoulders to the river bank. Then they had to transport the wood to the longhouse site by boat. Due to these difficulties, some resorted to taking other people's trees without permission. For instance, two men chopped down an *avang vireh* tree without informing the tree owner. Usually if a person does that, he would reserve the best portion for the rights holder, that is, the lowest part of the trunk which is the biggest and straightest portion. In this case, they kept the best portions for themselves. They left behind the highest part of the trunk which is considered to be the worst portion–due to its smaller size and bigger degree of curve.

The rights holder made a complaint to the headman. Because the rights holder did not pursue the case, the headman did not take any action.[1] One of the offenders eventually left the sawn planks and posts at the tree site, probably feeling ashamed of having taken them without seeking permission. This offender is also prominent in the community, being a deacon or *pelayan*, an important position in the Christian community. Despite this incident, the public social relationship between the rights holder and these offenders was not strained. However, in private, comments from the rights holder about the offenders were rather reserved. Nonetheless, in the rice cultivation season of 1994/95, they cultivated their swiddens adjacent to each other.

For firewood, the twenty years of permanent settlement in a single site has resulted in the depletion of quality firewood trees such as *lingoh* that are close to the settlement. Now, community members have to go to distant locations to collect quality firewood. In the foreseeable future, various species suitable for firewood within accessible areas which in the past were ignored, such as *terkalet*, will probably have rights established over them. This change in rights could first develop for trees in secondary forest along the Kajang River bank. Presently, anyone can fell trees in the secondary forest because the trees self-propagate to regenerate into forest. The land owner therefore does not have automatic claim to the trees, although he can establish rights to them if he so wishes.

Land Tenure

Before becoming sedentary, the Punan Vuhang never considered land as a resource. Although the land itself did not have any economic significance to the Punan Vuhang, socio-cultural factors could diminish the economic value of an area. When there was a death, the community had to leave the river valley where the death had occurred and settle on the other side of a mountain ridge or in another river system. Later, only the household members of the dead individual could return to the valley and this could only take place after a few years when there was a need to exploit resources there. For as long as the affected household members did not return, other people could not do so. If an unforeseen circumstance forced a person to enter that valley, thus desecrating the land, a fine had to be

[1] Upon being questioned on the action he would take, the rights holder said he would respond by taking sugarcane and bananas grown by the offenders. However, this threat was only empty words, and he never did so. This non-retaliation and failure to pursue the matter was probably due to his wishing to become a new headman in place of his aging uncle, the old headman. Also, he might have refrained from pursuing the issue as it could have undermined his authority and social standing. In 1996, the government appointed him as headman.

paid to the affected household. The fine was to avoid any spirit retaliation for the sacrilege. During this prohibited period, the people could not harvest any resource in the entire tributary valley, hence, we see the effect of socio-cultural factors on the economic value of an area.

Conversion to *Adet Bungan* nullified any potential adverse consequences to violating this taboo. And, the eventual adoption of cultivation which resulted in the community becoming sedentary caused another major shift in perceptions of land. Consequently, for the first time the Punan Vuhang established rights to land, following their first cultivation in 1968.

The establishment of rights to land followed the neighboring agrarian Kayan's land tenure system. The individual who first clears a piece of primary forest land establishes private rights to the land. The establishment of these rights is in recognition of the difficult work involved in felling trees to clear the land. The felling of trees, sometimes taking as long as a quarter of a day to fell a single tree, is very difficult and dangerous work. A piece of land that has been cleared of the big trees is more easily cleared in the future. Also, the big trees are of hardwood species that are extremely difficult to fell. Another factor that contributes to the value of secondary forest land is the decaying process of partially burnt tree trunks. These rotting tree trunks decompose into humus which becomes an important source of nutrients for cultivation. Land thus becomes a resource that acquires value upon being cultivated, and therefore, private rights are established over it.

According to the Punan Vuhang system of property rights, it is the individual who holds exclusive rights to the land and not the household, as in the case of the Kayan land tenure system. A Kayan man who marries into his spouse's household becomes a member of the land-owning household. If divorce occurs, his spouse's household members may only give him a little land as a token for his assistance in helping clear the land. In contrast, divorce does not nullify a Punan Vuhang man's rights to land that he cleared during his marriage. Instead, his divorced spouse has no rights to the land.

A case in point among the Punan Vuhang shows this difference in land rights. The household of Nigau (Household No 5), before the marriage of the present household head, Jimol, had previously held no rights to land. Rights to land that were established in the household were established by Nigau's former spouse, Tarang, who retained his land after the divorce. Tarang retains rights to the land because it was he who opened up the forest. Similarly, Rahut, the second spouse of Nigau, also retained his land after divorce. However, Nigau's rights to her spouse's land are not totally lost because her children produced from both marriages will inherit rights to their father's lands.

A different case would have occurred if there had been no offspring, in which case, the land would have been retained by the men and then inherited by their siblings. If the men should remarry and have children from their new marriages, the land would then be divided among all the men's children. Since this has not yet happened, this line of reasoning is just a conjecture.

In another case, Sakung, who divorced Naut, retains rights to all land and permanent fruit trees that he cultivated during his marriage to Naut. The divorced spouse only has a limited right to pick, without the need to seek permission, fruits that were cultivated during the marriage. However, according to an informant, if this woman gives birth to children in her new marriage, her children do not share the same privilege with her. Since she has

become old and is childless in her present marriage, how this would have actually worked out is unanswerable.

As mentioned above, one main factor for the establishment of rights to land is the difficult task of felling large trees in primary forest. A new development over rights to land will probably occur with the introduction of a new element–the chainsaw. The Punan Vuhang now use chainsaws instead of axes to fell trees and it will be interesting to see how land rights will further develop for land cleared by a chainsaw. Using again the example of Nigau's household, the chainsaw that the household members acquired was purchased primarily by selling rattan products woven by Nigau, her mother and her daughter. However, it was Jimol, the son-in-law, who did all the rattan collecting. The acquisition of the chainsaw was the result of a joint effort between Jimol and his in-laws. Since the chainsaw was a jointly acquired tool that has become the major element in the tree felling process, it is possible that a new type of land right will develop in the case of a divorce. It is likely that land will be shared or divided between the household and Jimol, who does all the land clearing work, although the quantum of division might be a possible source of contention.

The Resource Tenure Crisis of Legal Recognition

This section will assess the status of Punan Vuhang resource tenure according to State Law. It will describe the impact of the 1958 Sarawak Land Code and the Sarawak Forests Ordinance, the two main regulations that have direct implications on land and resource tenure. The issue is highly complex as the following discussion will show. To put the matter into perspective, the Land Code regulates matters concerning land under the jurisdiction of the Land and Survey Department. The Forests Ordinance, on the other hand, provides the Forest Department jurisdiction over forested land categorized as a Permanent Forest Estate, which is land permanently covered by forest vegetation and now reserved for perpetual commercial timber harvesting. Forest classified under the Permanent Forest Estate is legally categorized as Protected Forest under the Forests Ordinance. Lands and forests outside the Protected Forest are under the jurisdiction of the Land and Survey Department and are therefore regulated by the Land Code. Consequently, the Punan Vuhang live on land and forest regulated by two different sets of laws: the Land Code and the Forests Ordinance.

In 1958, the Sarawak Colonial Government enacted the 1958 Land Code to consolidate various existing land legislations and to repeal all land ordinances created prior to it (Chan and Lim 1992:9; Johen 1997:2). Under the Land Code, Native Customary Land is land for which native customary rights have lawfully been created prior to the 1st day of January 1958.

This legislation has severe implications for the Punan Vuhang. Section 5 of the Land Code makes it clear that rights to land established without authorization of a creation of customary native rights before "1st day of January 1958" are not recognized. The effect of this law on the Punan Vuhang is therefore damaging. Having been a hunter-gatherer people who had not cultivated any land before 1968, any means to claim rights to land is effectively ruled out by the law. As a result, all customary rights to land that they have cleared are inadmissible.

Nonetheless, with special provisions, customary rights can be created after 1st January 1958. Section 5.—(1) of the Land Code begins with:

> As from the 1st day of January, 1958, native customary rights may be created in accordance with the native customary law of the community or communities concerned by any of the methods specified in subsection (2), if a permit is obtained under section 10, upon Interior Area Land.[1]

Following subsection (2):

> the methods by which native customary rights may be acquired are—
>
> a) the felling of virgin jungle and the occupation of the land thereby cleared;
> b) the planting of land with fruit trees;
> c) the occupation or cultivation of land;
> d) the use of land for a burial ground or shrine
> e) the use of land of any class for rights of way; or
> f) any other lawful method [in the Land Code Amendment 2000, this subsection has been omitted]:
>
> Provided that— . . . .
>
> (ii) the question whether any such right has been acquired . . . be determined by the law in force immediately prior to the 1st day of January, 1958.

However, subsection (ii) emphasizing acquisition of land rights to "be determined by law in force immediately prior to 1st January 1958" contradicts subsection 1 that enables land rights to be created after 1st January 1958. With this convoluted legal "Catch 22," it would be futile for the Punan Vuhang even to make an application for land titles for "it is now almost impossible to create new Native Customary rights in Sarawak" (Hooker 1999:32).[2]

While Section 5 seems to be out of bounds to the Punan Vuhang for the application of documentation of land rights, they can appeal to the Minister for the declaration of a communal reserve. In Section 6, "The Minister may by order signified in the *Gazette* declare any area of State land to be a Native Communal Reserve for the use of any

[1] However Section 10 maintains that the exercise of rights or privileges in Native Area Land can only be carried out under a valid and subsisting document of title. Without prior permit in writing from a Superintendent of the Land and Survey Department, it is an offence to fell or attempt to fell virgin jungle or attempt to create customary rights in Interior Area Land.

For a better understanding, the related following categories of land are defined:

- *Native Area Land* means land held under a document of title.
- *Native Customary Land* means land for which native customary rights, whether communal or otherwise, have lawfully been created prior to the 1st day of January, 1958, and still subsist as such.
- *Interior Area Land* means land not falling within any of the definitions of Reserved Land, Customary Land, Native Area land or Mixed Zone Land, in which:
- *Reserved Land* is land reserved for special purposes, National Parks, Forest Reserve, Protected Forestry or Communal Forest constituted under the Forests Ordinance, and
- *Mixed Zone Land* basically consists of land held under title by all legal inhabitants of Sarawak.

[2] See Hooker (1999) for a discussion on the problem to accommodate customary laws and state laws in Sarawak. See also the works of Daes (1997), United Nations' Special Rapporteur on the problem of land rights between the States and indigenous people and Martinez (1996) on the problem of treaties and laws affecting the rights of indigenous peoples.

community having a native system of personal law." With the proper procedures, it is possible for the Punan Vuhang to apply to the relevant Minister to effect the recognition of land rights under this Land Code provision. Unfortunately, looking into the trend, even if this were to be done, it is unlikely that the Government will ever issue any such title (World Rainforest Movement and Sahabat Alam Malaysia 1989:241-254).

As a community that continues hunting and gathering, the other law in the form of the Forests Ordinance has a more serious implication for the Punan Vuhang. This mainly relates to the issue of the Protected Forest that is established over forest utilized by them for hunting and gathering. The Punan Vuhang are affected by prohibitions spelled out in Section 36 of the Forests Ordinance:

> no person shall in a protected forest—
>
> a) erect any building, or clear or break up any land for cultivation or for any other purpose;
> b) fell, cut, ring, mark, lop or tap any tree, or injure by fire or otherwise any tree, or remove timber, firewood or charcoal;
> c) take or remove any other forest produce;
> d) pasture cattle or permit cattle to trespass;
> e) cause any damage by negligence in felling any tree or cutting any timber;
> f) quarry stone, burn lime or charcoal or search for minerals;
> g) kindle, keep or carry any fire or leave any fire burning; or,
> h) commit any other acts of trespassing.

Subject to Sections 28 and 30, only those whose "right or privilege has been admitted but was not extinguished" can exercise subsisting rights or privileges "having regard to the natural capacity of the native to enjoy such rights or privileges" (Section 35. —(1).

The Punan Vuhang's rights have not been admitted as they had never made any claims during the establishment of the Protected Forest. Consequently, even if they had any, their rights or privileges have been deemed extinguished by virtue of non-claim within the stipulated sixty days upon proclamation of the proposed protected forest (Section 26. —(1) (c). In effect, the law now makes it illegal for the Punan Vuhang to collect any forest produce.

Nevertheless, Section 65 of the Ordinance allows the collection of produce for subsistence in any "State land which is not a forest reserve." However, this section provides for any inhabitant of Sarawak to do so "exclusively for his own domestic use and not for sale, barter or profit."

Depending on how the law is interpreted, Section 36 explicitly prohibits the above cited activities in Protected Forest, and this may overrule Section 65. Even if Section 65 is applicable and allows the Punan Vuhang to collect forest products, in essence the provision is even more harmful as anyone else can also do so for his/her domestic use. With logging activities getting increasingly nearer to the Punan Vuhang territory and giving access to outsiders all over the forest, valuable forest products such as rattan may soon be depleted, as has occurred elsewhere.

While an argument can be put forth that Section 40 of the Forests Ordinance gives hope to the Punan Vuhang to apply for communal forest status for their land, in that:

> The Minister may, at the request of a community, constitute any State land, *not being a forest reserve, protected forest or other Government reserve*, a communal forest [emphasis mine],

this will not help them, as any land classified as forest reserve and protected forest cannot be declared as communal forest or customary rights land. The restriction therefore makes the Punan Vuhang's chance of application remote if not impossible as the area in which they live is within the Linau Protected Forest area.

The implication of the Forests Ordinance for the Punan Vuhang is that they are severely restricted in what they can legally do in the protected forest. However, although the legal implications of Section 36 are severe, in reality, the law has not been enforced, and the Punan Vuhang have been allowed to live as they are. One reason is that the Sarawak State government has so far tolerated native people's forest activities as they have lived off the forest from time immemorial. It would be inhumane to prevent them from continuing to do so. Even if the government were to be strict, it would be difficult to enforce the law. A major factor that favors the Punan Vuhang is their great distance from administrative centers which makes law enforcement extremely difficult. Besides, due to the small number of people in the community (70 persons), their impact on the forest is minimal and it is likely that the government will continue to tolerate their presence in the headwater regions.

Conclusion

Resource tenure has evolved from a system of rights to resources based on a mobile economy to one that is affected by sedenterization. Open-access rights are held for abundant resources not in danger of depletion, while private rights are held in perpetuity to allow conservation of resources. Private rights are also held in recognition of the effort of cultivation, although the rights are relinquished when plants regenerate after cultivation.

Recent developments will have great impact on the Punan Vuhang resource tenure system. The increasing penetration of the logging industry into the Balui headwaters, as discussed in the next chapter, and development of the Bakun Hydro-electric Dam have enhanced the importance of land as a resource. Land is now not only considered a resource for cultivation, but also offers the potential for monetary compensation when it is taken away. The next chapter describes how, with the lack of legal protection over their traditional land, logging has taken place without any regard for Punan Vuhang resources and land tenure.

Chapter Eleven: The Punan Vuhang Response to Logging and Their Sense of the Future

Introduction

The previous chapters dealt with the Punan Vuhang way of life represented as adaptation to the rainforest environment and included strategies that enabled them to subsist without dependence on external sources of food. In the past, this ability enabled them to retain their freedom as a hunting and gathering people and avoid subjugation by expansionistic agricultural peoples. Although they later adopted agriculture and a sedentary life, this they did of their own free will. Today, however, rapid industrial development is being initiated by the nation-state with consequences that are becoming inescapable. The drastic impact on the rainforest, primarily in the form of logging, has altered the forest that once served the Punan Vuhang as their primary resource base.

When I left the community at the end of my 1993-1995 fieldwork, logging had yet to reach their forest. The nearest logging operation then was still about a week's walking journey away. Two years after logging started in their forest, I returned to the community for a month's fieldwork in 2002, to see how the Punan Vuhang have so far responded to this early phase of environmental degradation.

The Punan Vuhang Response to Logging

In the early 1990s, the Punan Vuhang became wary of the impending arrival of logging companies that would bring with them severe ecological destruction. In 1994, when hunters went to a distant mountain in the direction of the Kahei River, a tributary of the Balui headwaters, they heard a faint roaring sound. They went on to investigate, and it took them a week's walk to the area, where they found that logging tractors were the source of the sound.

Through their travel to downriver areas affected by logging and listening to peoples' complaints, the Punan Vuhang became very much concerned with how their forest would become degraded. When I participated with them on hunting and gathering forays, they would lament and point out to me various plants that will be destroyed when logging comes to their area. They have seen that although only trees with commercial value will be harvested, the impact as they are felled on the surrounding trees will be severe. The huge canopy of a tree will crush the surrounding trees. The long liana vines that are entangled with it will pull and snap the branches of other trees, including fruit trees that provide food for wildlife. The use of tractors in pulling and dragging out logs will expose the mineral soil, which will then be washed away into streams and rivers. They are aware that rivers will become muddied and polluted, causing the fish populations to dwindle. The construction of roads requires leveling of land at the tops of hill ridges and mountain ranges, and this will cause soil to be pushed down the slopes. This exposed soil will cover the entire slope and will destroy all its resources and become a major cause of erosion and pollution.

The crisscrossing of logging roads, tractor tracks and the formation of new streams due to the changed physical landscape will affect the habitat of wildlife. The drone of chainsaws and tractors will cause animals to flee to areas free from disturbance. Hunters will then have to adapt to the transformed environment and go to distant hunting grounds, including up into the highlands unaffected by logging activities, to obtain meat. Even so, they

have heard that the use of helicopters to extract logs from hilly and mountainous terrain will eventually render all types of land accessible to logging.

In November 2002, during my second period of fieldwork, Naro Pua, the headman, recounted to me how they have responded to the impending arrival of logging. In anticipation of the problems, they requested the aid of some young people in Belaga to help write a letter to the Sarawak Forest Department requesting a communal forest designation be given to the Bukor watershed and kept free from logging. Naro's entry to his diary, on January 14th, 1998, describes when they first heard the faint sound of tractors while standing along the Kajang River. The headman and four companions took a three days' walking journey to inform the Shin Yang logging Company operating at the Kahei area of their presence and to request them to spare the Bukor watershed.

The group trekked up the mountain that separates the Kajang watershed from the Bahau River which flows down into the headwaters of the Balui. After descending the Bahau watershed, they camped at the bank of the river at Laput Busang Bahau. They put up a fishnet and caught three big fish for dinner. Early in the morning, they ascended the mountain across the other side of the Bahau River. On top of the mountain that separates the Bahau from the Kahei, a river further up the Balui, they were surprised that they could not hear the tractors' sound. Members of the expedition became doubtful whether they were heading in the right direction. The headman was nonetheless confident that they were heading the right way. At 3 p.m. when they descended the Kahei watershed and reached the foot of Mount Bulukuk Jilen, they heard the sound of a tractor. A man then climbed up a tall tree to locate the source of the sound. Having pin-pointed the direction, they rested and ate lunch.

They immediately proceeded on their journey and ascended the mountain. Midway up the side of the mountain, they saw painted marks on trees made by logging surveyors. They descended along a stream. Not long after, they saw a river muddied by logging and heard the sound of the tractor. While two men stayed back to put up camp for the night, the other three went to check on the situation. One of them, armed with his gun, followed a distance behind to protect the two front men. They saw a campsite abandoned by the surveying crew and followed their tracks up the tractor trail. They continued searching in the night and reached the logging camp at about 9 p.m.

Upon reaching the camp, they informed the camp manager of their identity and their application to the Sarawak Forest Department for the Bukor to be their communal forest. The camp manager acknowledged their visit and gave them food and shelter for the night. On their way back, he gave them three tins of paint to mark out the communal forest and some food worth RM400 for the community. He also advised them of a better way to return to the Kajang instead of using the mountainous trail back to the Bahau headwaters. It took them two days to reach home. Everybody in the community was happy with the outcome of the visit. They were glad that the camp manager seemed sympathetic to them as he gave food and paint to mark out the communal forest.

In March 1998, a Company surveyor crew walked for two days to inform the community of their plan to survey the forest for the main logging road. The people requested various forms of payment that they knew were usually paid to local communities before the companies could do work. The terms followed that of other communities: *masuk kawasan* (Malay, 'entering area'), *pemali* (Iban, 'taboo'), *lanum patuk* (Punan Vuhang, 'water

pollution'), *tembawai* (Iban, 'old settlement area') and *kuburan* (Malay, 'burial grounds'). The Company requested them to put up the demands only after the construction of the road. The Punan Vuhang agreed but they were insistent for payments to be made first before construction of the road into the Kajang watershed. After the survey, the initial phase of road construction was so rapid that it reached the Kajang watershed by July. As their demand had not been met, the Punan Vuhang refused to let the Company carry on the survey into the Kajang. The headman went to Belaga to complain to the District Officer, who advised him to negotiate properly with the Company. When he returned and sought negotiation, the Company refused to commit to any payment.

The people then put up a blockade by laying a log across the road, and demanded compensation before allowing the Company to cross the line. Failing to find any consensus, both parties went to seek the District Officer's arbitration. The District Officer advised the Company to pay the Punan Vuhang in accordance with the Memorandum of Understanding (MOU) between the Orang Ulu National Association (OUNA) and the Sarawak Timber Association (STA). With payment of RM1,800 following the MOU guidelines, and a RM6,000 compensation for 'opening the blockade' (Malay, *buka gate*), the surveying and road construction work was allowed to proceed. For other requests, the manager advised them to wait for the road construction to reach the river so that the people would not have to walk up to the road still on the top of the range to meet him. He made a pledge to consider their requests; and the Punan Vuhang remembered his promise.

Using two tractors, the crews built the road rapidly. The first tractor bulldozed land and slopes to create a passage while the second tractor leveled the roadbed. Within five months, in December 1998, the construction reached the edge of the Kajang at the mouth of the Kebuhor River. When the construction reached the river bank, the community demanded compensation for damage to their land and secondary forest. The Company wanted to pay in accordance to the OUNA-STA MOU, but the people did not know what the stipulated amount was. So they went to see the District Officer again, who explained to them the form of payment, which is compensation according to the extent of damage to the land, measured by chain from the edge of the logging road.

When they returned, the Company decided to pay without actually measuring the extent of the damage. Although protesting, the land rights holders on both sides of the river agreed to receive a total payment of RM6,000. Besides compensating for damage to the land, another RM18,000 was paid to the people as compensation for damage to the Kajang watershed, (the first payment received earlier in March 1998 was for entering the Kajang watershed). The money was distributed equally to all individuals.

In January 1999, the Company constructed a temporary wooden bridge across the Kajang River to facilitate road construction on the other side of the river. Later, the people protested against the construction of a metal bridge. The camp manager placated them by offering the Company's vehicle to take them to sell vegetables to the timber harvesting operation areas and provided other forms of assistance. A year later, in January 2000, this road from the Balui headwaters, from the direction of the true left bank of the Kajang merged with the main logging road network across the river that is linked to the log-pond located along the Tubau River near Bintulu.

In March 2000, the Linau Base Camp was constructed at the Lirong Putdong Bay by the Kajang, downriver of the Long Lidem settlement. The establishment of the logging infrastructure took some time, and logging first commenced in the Kajang valley in the year 2001, starting from the Isau tributary, located at the true right hand side of the Kajang. On the true left hand side of the Kajang, logging proceeded with forest far upriver of the settlement. As of December 2002, logging proceeded into the upriver Bukor and Kebuhor tributaries. This upstream activity caused much pollution to the Kajang River. As mentioned above, the Bukor is the area where the community had applied to the Forest Department for their communal forest. Since there was no approval, the Company simply ignored the Punan's call to stop logging.

During my visit in November 2002, the Punan Vuhang expressed their concern over this new development by using the analogy of logging as the ficus vine that strangles its tree host to death, for the harvesting operations were pressing into the community's immediate resource and hunting grounds. Rather than initiating the logging operation far from the community's surrounding forest, logging has already occurred close to the settlement. The Punan Vuhang allege that the Company deliberately carries out logging operations close to the settlement when the people are still ignorant of how to deal with the Company. An informant feels that when the Company later will operate in distant areas, the Punan Vuhang will no longer be a potential threat to the Company. Even if they have learned how to take up proper actions against logging, the Punan Vuhang will be too far away to take any action as the Company will have moved to log distant forests.

Physical Impact of Logging

The fears of the Punan Vuhang described above were confirmed when logging occurred in their forest. The words of Bruenig (1996:88-89, 113), a forester with much experience with logging in Sarawak, outline how unsustainable this form of logging is, which is now being done:

> In conventional selective logging practice, not only the skidtrails but also the roads are notoriously badly aligned, drainage is poor and very ineffective, and the road trace clearing is excessively wide, between 50 and 100 m. Consequently, rates of erosion and runoff of muddy water are extreme and far in excess of unavoidable increases. . . . 'Frequently ... the tractor driver moves aimlessly around with his tractor. . .' (Mattson Marn and Jonkers, 1981). 'Tractor drivers bulldoze their way from tree to tree without planning and without considering the best extraction routes, causing particularly bad crisscrossing in easier country' (Yeo, 1987). In steeper, more difficult terrain, skidtrails tend to be fewer and winching distances longer, but skidding tracks are cut deeper into the soil and erosion is very heavy (Bruenig 1996:113).

With such a drastic impact to the forest landscape, the Punan Vuhang face the following problems: On the ground, the bulldozing of tractors over the soil surface has cut into hill slopes, thus destroying the habitats of ground-dwelling game, such as porcupines (*totung*) and a variety of birds (*manok*). Such habitats include underground nests for mammals (*luvang laut*) and birds (*luvang manok*), and animal paths where hunters used to set noose-traps (*tanok ovet*). The destruction includes salt lick springs (*tasapan*), which has forced the animals to leave the area. Even after logging ceased, the area remains devoid of

game. Soil churned up by the tractors has created mud. During the rainy period, the new, sticky clay surface makes movement difficult, which has forced the animals to leave for steep undisturbed forest at the edge of the logged forest. At the tree branch level, the crashing of huge trees down over the surrounding vegetation caused dense tree canopies to open wide. This destroyed the habitat of tree-dwelling animals. Another important habitat, hollow trees or trees with holes used as nests by hornbill birds, has also been indiscriminately destroyed. Despite timber harvesting rules that prohibit felling of hollow trees, loggers indiscriminately fell mature trees without checking them.

Besides destroying the habitats, the logging of timber trees has also disrupted resources consumed by game animals. Two tree resources important to the Punan Vuhang are the *tijai* and *mapei* trees. The grey leaf-monkey (*Presbytis hosei*; *Bongat*), eating leaf shoots from these trees and drinking water from salt lick springs, produces highly valued bezoar stones in their internal organs. In the Bangan-Bahau area that had many *tijai* and *mapei*, logging has devastated many of these trees. The various species of *shorea* that produce fruits and nuts consumed by wild boars have been among the main timber trees felled, affecting the local wild boar populations.

Wherever logging occurs, it has devastated almost all animal habitats and food resources. As the traditional hunting grounds affected by logging become devoid of game animals, hunters have to go into patches of forest that have not been logged. Loggers forego such forest due to the absence of commercially suitable trees, or the gradient of the grounds may be too steep for the tractors. However, few game animals inhabit such forests as they are sandwiched between surrounding logged forest. Consequently, hunters have to go into distant forest grounds that have yet to undergo logging. Eventually, these forests will also be logged, leaving few undisturbed places where hunting can be done.

Logging not only devastates habitats and animals' food sources, but also plant resources that the Punan Vuhang use for food and various material needs. The indiscriminate movement of tractors over the ground destroys rattan groves, and crashing trees snap the vines growing into the tree canopies. The construction of logging roads and main tractor trails on top of ridges results in soil being pushed down the slopes, thus destroying the vegetation that lives on it. This includes sago palms that thrive on steep hilly soil.

The Punan Vuhang also face the problem that logging pollutes the rivers. Even during light rainfall, the river becomes muddy, posing difficulty to fishing as fish swim away to unpolluted waters. To fish, the fishermen have to set fishnets upstream of the logged area. Also, away from the settlement, where piped water is not available, the polluted river water cannot be used for drinking and washing.

Economic Response to the Changing Landscape

As hunting grounds unaffected by logging severely decrease in number and size around the settlement, the Punan Vuhang have to go a great distance to hunt game animals. For example, the watersheds of the Sengayan and the Kebuhor Rivers, the main traditional hunting grounds, have been logged and are now out of bounds for hunting. On occasion, hunters try their luck and bring their dogs into the edges of logged-over forest to search for wild boar. Hunting there can be dangerous and difficult. When the dogs pursue a quarry that

runs into the logged forest, the dogs cannot run over the fallen branches. Besides, brittle branches can drop on them. To have a higher chance of success, the hunters use boats powered by outboard motors to bring their dogs into pristine forest far upriver. As of December 2002, hunting on the true left hand of the Kajang is mainly done upriver of the Bukor. At the true right hand side, hunters venture upriver of the Ase. Using an outboard-motor powered boat that is laden with dogs, a hunter requires a gallon of benzene fuel to reach these areas. From the river bank, the dogs spread out into hinterlands to track wild boar and occasionally, deer. The success rate is dependent on the availability of food for game animals to forage at these hunting grounds.

Older hunters who do not have such motorized means of transportation have to rely on the traditional method of trapping. Where trappers detect signs of ground-dwelling animals in nearby forest that is accessible within two or three hours' walk, they set noose traps across animal pathways. Every day, they go to check on the traps and set up new ones to increase their range of trapping grounds.

Destruction of rattan groves reduces the amount of rattan that can be harvested. The men have to go deeper into the forest to collect vines from the remaining rattan groves for their wives to process and weave into baskets and mats. Similarly, the devastation of many aloewood trees has caused the Punan Vuhang to concentrate much of their time searching out this precious wood before these trees, too, are destroyed.

Besides having a direct impact on the forest, the logging industry creates a market for various forest products and thus causes an indirect impact on the environment. The daily and frequent visits of Company personnel to the settlement to buy fish and meat create additional pressure on scarce forest resources. Whenever the river conditions are favorable, almost every Punan Vuhang male ventures to set nets in the Kajang River, especially the upriver part of the river unaffected by logging pollution. Some men frequently camp overnight to have better chances to catch fish. Fish, an abundant resource that once had monetary value limited to monthly purchase by the staff of the Flying Doctor Service, are now becoming increasingly difficult to catch. This is in part because many fish have already been caught and most fish, according to the Punan Vuhang, have become wary of fish nets cast all over the river. Only in the dark of night do these fish swim about and can they be snared by the nets.

Table 21: Price of Fish in 2002

Scientific name	Punan Vuhang name	Price in Ringgit per Kg
Tor Tambroides (red variety)	*katu*	25
Tor Tambroides (white variety)	*katu*	30
Tor douronensis	*tanguh*	15
Hampala macrolepdidota	*lungan*	6
Leiocassis robustus	*nalam*	10

Like fish, wild boar and deer are in high demand by camp workers. The first instance of selling meat occurred in 1998. While searching for aloewood in the Bahau area, a hunter shot a male wild boar. As the meat was too much for his fellow aloewood collectors,

he carried the carcass to a logging camp located half a day's walk away. Without negotiating for a higher price, he sold the whole carcass for RM50. When the logging camp shifted its location to the Bangan River, hunters walked for half a day from their settlement to sell their quarry there. The price remained at RM50 for a mature pig. In March 2000, the Linau Base Camp was set up downriver at the Kajang River. After that, the community decided to sell the meat based on weight, at RM3 per kg. This was later raised to RM4. The amount of money that a hunter can obtain ranges from under RM100 for a small-sized pig to RM200 for a big male wild boar. Other game animals sold include deer at RM15 and barking deer at RM4 per kilogram. Unlike wild boar meat that is sold with bones attached, bones for deer meat are removed.

With the need to obtain cash by selling meat, the Punan Vuhang no longer share meat within the community. The community stopped sharing when hunters began to regularly carry wild boar for sale to the Bangan Camp, reachable within half a day's walk. When the people grumbled about this change of attitude, a respectable community leader, Sayun Liwan, advised the people to understand that the need for cash had become very important. He asked the people not to feel disappointed that this time-honored tradition was no longer followed.

As sharing is no longer practiced, meat is now also sold within the community. Unlike in the past when the carcass was brought directly into the apartment, the first hunter who returns will cut his game in the corridor and sell it. When a logger comes to the settlement, he usually buys the remainder. Buying the meat at a price of RM4 per kg, he sells the meat at a higher price among workers living in the logging operation areas. Successful hunters who return later usually wait for transportation going to the logging camp or harvesting areas so that they can sell the meat directly to the workers, albeit at the same price of RM4.

The people spend much of this cash obtained from the sale of fish and meat in the logging camp's shop. Among the first items usually bought are Coca-Cola, biscuits, and sweets that they consume immediately. Other items usually needed in the household, such as instant noodles, frozen chicken-wings, "sardine" canned tuna, rice and, among those who smoke, cigarettes, are also purchased. Additional cash is immediately spent on a variety of items: groceries like onions, garlic, ginger, salt, sugar, eggs, frozen fish, canned food; beverages like coffee, Milo (a brand of cocoa drink) and a variety of soft-drinks; and roasted nuts and chips. If more cash is obtained, additional items such as clothes, batteries, soap, and toothpaste are bought. More often than not, a hunter will save some money for future use. Part of the savings will be used to buy necessities in the future. When a Company car comes to the village, those with spare money will hitch a ride to shop at the camp.

Another major indirect impact of logging on the Punan Vuhang economy is on their old style of shifting cultivation: now only two households continue to cultivate swiddens large enough to meet the needs of their households. All other households plant rice sufficient only for a few months' consumption. When their rice is finished, they buy rice at the shop. Informants said that this practice of cultivating smaller swiddens is caused by the urgent need to search for aloewood before the remaining forest areas are destroyed by logging. Spending so much time in the forest searching for aloewood requires them to spend less

time on farm work. In any case, cash from the sale of aloewood, although acquired more by chance than by effort, can be used to buy rice.

Pressured to earn cash through intense fishing, hunting and collection of aloewood in an environment with rapidly depleting resources, the Punan Vuhang increasingly feel frustrated and apathetic over the future looming ahead when all their forest resources will be destroyed by logging. They lament that their lack of skills and knowledge of how to live in this new, changed environment will result in a hopeless future. Ngarik Liwan's grief echoes the worries expressed by others:

Joh nyi! Kai tovih kompeni, magahan tusah longak nyokonu in.	Oh dear! I feel so very worried about the Company.
Nah ok aran doh nak kuk, aran doh nyahuk du in, mahik ok nyokonu nyi.	When I see my children, my grandchildren, I really feel pity for them.
Joh mon uron, jok ok tikgob in jiet oh! Piloh in ang jian, piloh doh tuei kan gulak yut kai, piloh doh tuei kan siow yut kai ivak ok! Jian longak sok in.	Earlier, I didn't know it would be like this. I said they are very good, I said they come to give us sugar, I said they come to give us salt! I was very happy.
Nah ni ok aran in ok ni alum tei sok Bintulu, ok alum vak sok Kapit, ok aran linau nyi mesikin nyi.	*Nah*! This is what I saw. I have been to Bintulu. I have traveled downriver to Kapit. I saw the people there were so poor.
Ang di dei paroh longak nyokonu ni, joh ok aran doh nyahuk du ni. Ok! Koh ran longak sok ulik kiap in, sok ulik aran dalih. Mahik-makik oh kom nak! Mahik-mahik oh kum nyahu! Keni mongo ren toh ni sok jik eh. Ni mongo ren doh kavoh kak jik eh koh longak.	Now I feel heartbroken when I think of my grandchildren. Oh! This is how I feel after coming back from visiting those places. Oh dear, my children! Oh dear, my grandchildren! This is what will become of you. You will die in the future, so my heart bleeds.
Ken aran nak kuk, doh nyahu kuk, jok ok gum ru'o nak kuk uron. Pinak ok nganak ru'o nak kuk. Oh sanik ru'o jian koh vak longan aran ru'o. Jik koh longak nyokonu ru'o.	When I see my children and my grandchildren now, it is no longer like the way when I was nurturing them. When I gave birth to my two children, I felt happy when I looked at them. I had only one feeling when I thought of them.
Longak keni, Eh! Beh ok bahik dei mek hap, beh ok mek nyam, mek we ni, kaman ru'o nak kuk.	This was how I felt: *Eh*! When I diligently process sago, when I weave mats, weave rattan, my two children will have food to eat.
Beh ni oak ni bahik mek ovow, tei nagak, ang di tei ngovet, kaman ru'o nak kuk koh longak, sok ok nganak kuk uron.	When my husband diligently sets fish traps, goes hunting with dogs, sets noose traps, my children will have food to eat, so my heart felt - those were the times when I was raising them in the past.
Nah, ni ok aran nyahuk ben nyi, joh ren longak kena. Aran nak kuk, nyahuk benya, piveh nya longak (?)	*Nah*! Now when I see my grandchildren, I don't feel like that anymore. Seeing my children and grandchildren now, my heart drops.
Beh ok aran doh mohong. Eh! Muxit eh iling matak, nangi oh. Beh ok aran doh mohong, tikgob leyan, tiring tikgob leyan, sanik mohong, tiring doh tikgob ang di ngereti irun bahasa di toh onok, mohong doh sanik doh.	When I look at them laughing, *Eh*! My eyes form tears and I cry. When I see them laughing, learning to talk, beginning to learn to talk, in the future when they learn other languages, they will laugh happily.
Eh! Nyum me'. Sanik mohong nyahuk, nyum me' eh sanik. Ang di sok urip lau, johnya kak jik, koh vak orang miskin neh nya kak jik, koh longak aran doh ren.	*Eh*! Don't do that. My grandchildren laugh so happily. Don't be so happy. You won't be like that. You will be like poor people. So my heart aches when I look at them.

Nek ok balum sok Bintulu sok Kapit. Joh sok ciap nuo orok, ang di nyot aran doh. Eh! Keni koh dohnya nyot ligit pa'an orang miskin. Nah! Beh lau lamuk longan onok, dei doh pivak sin. Ok! Tuhan koh doh, kejian kuk sok in nyi, kavaii kuk sok en nyi, linaunya kan yak, kon doh.	I have been to Bintulu and Kapit. At the wharves, I saw some people by the roadsides. *Eh*! So that's how these poor people beg for money! When some people become kind-hearted, they go and give some money. Oh God! Have mercy on them. "Oh lucky me! Someone sympathized with me and gave me something," the beggar must have thought.
Nya nuak longak nangi aran doh nyahuk morip benya, nek nyokonu irun adet nek kompeni sok kai. Ok nyokonu tanok yut kai balum, we yut kai balum gen yut kai balum.	This is why I cry when I see my grandchildren. Thinking of what the Company has done to us. I think of our devastated forest, our rattan and fish that are all finished.
Nya nyokonu irun kainya ngaran Punan. Matok oh kai nyi aran Punan eh, eh nuan bangsa ulong aran kai nyi nek dok linau. Irun kai sok laut, ngajoh doh linau tet pupong sok kai nyi Punan eh, sok ang nyi morip kaman tanok, morip kaman manok, morip kaman laut eh.	I think of all of us who are called Punan. Yes! It is true we are called Punan. Of all human races, among all of us who need wild animals for food, there is none who need animals more than we Punan, because we eat forest products, we eat birds, we eat wild animals.
Matok doh nyi balih ngaran kaman adet tanok, keun doh. Ngaran nyinya. Nya tuket ang jik ivak sok nuan doh lak morip doh.	Some people say, there are also others whose livelihood is dependent on the forest. It is only in name. They have their own ways of living.
Nek ok nyokonu doh nak kai ngajoh meyan kerja sok kompeni. Beh ok nyokonu doh nak kai ngajoh meyan sekolah irun doh, tapah sok kai.	Thinking about why none of our children works for the Company, thinking how none of our children has gone to school, we are finished!
. . . .	. . . .
Nek kai morip sok tajuk, sok we, sok luq, pen ovet, manuk, bavui, payau, irun lalem tanok ni.	Our lives depend on sago, rattan, sago starch, game caught by noose traps, birds, wild boar, deer, and all things in the forest.
Nah ia urip kai nyi, nek kai joh morip sok ang vak yut kum sok laput nyi. Nah nya ok keni.	This is how we live, we don't live the way you do at the river mouth. *Nah*! That's why I am like this.
Beh kom kena, ok piloh sok doh nyi le, piloh hom sok urip doh jiet in.	I have been telling this to our men, "Go and tell them about our devastated lives."
Joh nyi nek ngajoh ok gum laik tei mohoi dok linau mahik kai, gob nolong kai sok hadui kompeni sok kai. Ok ngajoh tikgob mek nua nyi nek kai ngajoh meyan kereta. Kai joh tikgob sok hai, sok hai nuan kai tei nyot urip kai. Ok ngajoh palamok piloh kejiet morip kai.	I have not brought our problems to those who have sympathy on us, those who can help us overcome the problems brought by the Company. I don't know how to find a way to see them as we don't have a car. We don't know where we can find help to overcome our problems. I couldn't reach them to tell how bad our lives have become.
. . . .	. . . .
Ni tanok yut kai balum nyi	Look, our forests have been finished.
Nah nu koh kai morip kai, kai kavoh nyi sauk. Mahik kum sok kai, nolong nyum sok kai. Nek lei kai du nyi joh meyan sekolah. Joh meyan pikir nuan kai gob puxit orob nuan kai lak celenat nak kai, nyahun kai dunyi.	How are we going to live? Surely we will die tomorrow. Please have pity on us, please help us. Our men have not gone to school. They do not know how to find ways to save our children and our grandchildren.

Having cited Ngarik's helplessness and her frustration over the community leaders' inability to control the damage done to their forest, we shall now look into the social impact upon the people that arises as a result of logging.

Indirect Social Impact of Logging

During the short period of my fieldwork, from information mentioned by informants and through my observations, I have come to see four areas of negative social effects arising from logging. In some instances, to understand the effects better we need to compare them with the situation before logging.

Alcoholism

The most notable problem and the issue frequently cited by informants is the effect of alcoholism. Before the advent of logging, Punan Vuhang did not drink any alcoholic drink as they did not brew rice wine. Only two individuals used to drink on their travels to Belaga. As alcohol consumption is strictly prohibited by the Company, on pain of being terminated from employment, loggers came to the community to seek a safe place to indulge in drinking. They invited their Punan Vuhang friends to join the party-like drinking sessions.

The drinkers take pleasure in the effects of alcohol, which induce a sense of well-being (*jian longan*), happiness (*sanik*), and desire to tell stories (*tavat sanik*) and listen to jokes. In such a good mood, they feel that their problems have evaporated and they do not feel slighted by adverse comments that people make about them (*irun lain jian ivak* – "all sayings are good"). If the loggers have sufficient money to buy extra alcohol, the drinking bouts can last through the night. Now many Punan Vuhang individuals have become addicted to drinking.

With a demand for alcohol, individuals returning from the Bintulu town bring back liquor for sale. To avoid confiscation of the drink by the Company security at the Danum Base Camp, the travelers conceal the bottled drinks in a box, or put carbonated Coca-Cola cans on the top of beer cans. In any case, the amount they smuggle is too little to cause concern to the Company so searches have rarely been conducted. With the exception of the few individuals who do not drink, in every trip to Bintulu, the Punan Vuhang will invest their money by buying alcohol for the return trip. For a journey that involves only RM60 for the return journey transportation, and RM20 to RM50 for accommodation in cheap hotels, more money can be potentially earned compared to the amount spent for the journey. Nonetheless, to avoid a security search, the amount smuggled in is limited to one or two dozen bottles, beyond which, it would become too obvious for the security guards to ignore.

Loss of Leadership Authority

While we have yet to see how alcoholism will affect the community as a whole, it has already severely affected the leadership of the headman. Before the advent of logging, he was one of the two men who usually traveled to Belaga. As a headman, he had to attend meetings at the District Office and other social functions. In the Belaga bazaar, or in the longhouse on his journey to and from the town, he was normally invited by other community leaders and friends to drink locally brewed rice wine (*burak*) or factory produced liquor. When alcoholic drink became available in the Long Lidem settlement, he was the first to indulge in heavy drinking.

Knowing his liking for drink, loggers who come to the community to satisfy their craving for alcohol frequently invite him to join their drinking sessions. He usually becomes drunk. Losing his sense of propriety, he commits socially inappropriate behavior. Instead of

commanding his people's respect through good manners and occupying himself with important tasks, he indulges in unrestrained talk (*leyan manan-manan*), "being a busybody like a woman" (*vak doh oroh*), and laughing and smiling to himself (*mohong-mohong*) as he walks about in the corridor.

He even drinks before holding community meetings, ignoring his spouse who tries to restrain him. When drunk, he talks with pride when projecting his ideas and boasts that he knows more than anybody else does. With such an outrageous attitude, the people simply ignore his suggestions. When he becomes sober, instead of leading his people into action by first acting on his decision so that someone will eventually join him, he gives up when no one comes along to join him. In the end, another community leader, the chief deacon of the church, has to take over the role in initiating discussions. Without calling for a community meeting, a small gathering in front of his apartment generally attracts people to come, sit down and then participate in the discussion.

For meetings with camp managers and Company foremen, the headman also drinks beforehand, although he restrains himself from becoming drunk. What draws the headman to drink before a meeting? He reiterates that after having a drink, he feels confident, is able to think clearly in his strategizing of ideas and therefore able to argue more convincingly. He states that he can then articulate fluently in Iban, Malay, and even in English to show his superiority over his opponents! Without feeling the sensational effect of alcohol, he does not have the nerve to speak English, a language he had learned during the 1960s from British soldiers positioned in the border areas in the Confrontation between Malaysia and Indonesia.

Besides losing his people's respect, a more serious impact affecting his leadership is his inability to resolve problems wrought by logging activities. The problems are far too big for the traditional leadership system to handle. Previously, a leader dealt with outsiders who came to the Punan Vuhang for their assistance, such as trading for forest products. The visits of government personnel were matters that benefited the people. These dealings with outsiders that brought benefits to the people enhanced a leader's authority. In comparison, loggers today overwhelm Punan Vuhang interests. This inability to control the actions of outsiders causes an extreme loss of faith in their leaders among the people.

Loss of Cooperation

Another issue informants see as having occurred after the advent of logging is that the people no longer cooperate to help each other with activities that require extra manpower – not even close relatives. Each man tends his own tasks that he has put aside when he goes camping in search of aloewood, fishing, hunting or trapping. Therefore, when he is at home, he has to do a multitude of tasks. He repairs his outboard motor, mends his fishnets, collects firewood and splits it into kindling, searches for raw materials and carves them into tools, collects rattan vines and processes them into strips for his wife to weave. Occasionally he goes to Bintulu. The times when he has money and feels the need to relieve his craving for alcohol, he becomes drunk and cannot do anything for the day. Frequently, he is at the logging camp's shop buying things and sometimes spends a few hours waiting for Company transportation to return home. Only when his siblings, spouse's siblings or a close friend who partners with him are in real need of assistance, will he offer his help to them.

Impact on Resource Tenure

We shall now look into the political problems in the Punan Vuhang's dealings with the Company. The most important issue is the matter of the communal forest status they requested from the Sarawak Forest Department. As we mentioned above, when the Punan Vuhang first visited the Company to inform them of their request for a communal forest at the Bukor River, they were given paint to indicate the boundary. However, since there was no official letter from the Department on the status of the application, the Company went ahead and logged the area. The camp manager even offended the headman by questioning their land tenure. The headman recalled the offending statement made by the camp manager and his own response to the insults:

"*Sok hai tanok yut nuom kom? Sok hai nuom kom? Ngajoh nuom kom! Irun tanok yut perintah. Luar sok yut perintah yut kompeni.*	"Where is your land? Where is your place? You don't have any place of your own. All land belongs to the government. What is owned by the government is owned by the Company.
Kuom joh meyan bae, joh meyan nu, joh meyan nuan".	You don't own any secondary forest, you don't own anything, you don't own any place."
Pinak manager piloh kena, ok lohoi magahan, lohoi magahan, paroh longan.	When the manager said like that, I was so upset, so very upset, and my heart ached.
"*Ang nu in sebab manager joh tikgob.*	"What is it that you manager don't know?
Manager alem lak lesen. 2000 umo kai alum morib oh nyi. Bukti kai meyan tanok nyi.	Manager, you only got the license yesterday. For two thousand years we have been living here. That is the evidence we own the land.
Hai lesen kom, kai ang meyan lesen. Lesen ang kum lak alem, lesen pulah!	Where is your license! We own the license. The license that you got yesterday is fake!
Talanak yut kai, lesen tovih hin dok linau, meyan celenat, meyan bahvak. Kalah! Kai ni menang! Kai ni puún meyan tanok ni."	The evidences of our license are our flesh and blood, our breath and our mouth. You lose! We win! We are the original owner of the land."

To refute the manager's ignorance that the Punan Vuhang never owned any land, the headman brought the manager to the mouth of the Bukor River, to show him the mature fruit trees planted by them when they first adopted cultivation in 1968. The Company not only had contempt for the Punan Vuhang, but also for the regulations of the Forest Department. At the headwaters of the Balui that the Punan Vuhang know as the Kahei area, the Company fell trees below the size of a man's waist, some just up to a man's thigh. As far as the Punan Vuhang know, the Company is only allowed to fell trees about the size of a drum. When they asked why such small trees were felled, the camp manager stated that they were not bound to the regulations of the Forest Department! One time the Department personnel came to investigate in the Bahau area. According to the Punan Vuhang, the officers reprimanded the Company for felling those small trees and chased them from the forest. The officers then visited the Punan Vuhang and requested them to report to the Department any illegal activities performed by the Company. It was only then that the Punan Vuhang were shown some respect by the Company.

Even so, such felling of small trees continues to occur in some areas. When asked, the workers claim that it is the Company's policy to have all trees above the size of a man's thigh felled. The Company's post-logging inspection team will come to check on the forest. The total volume of the "harvestable trees" left standing will be counted. Fines are then imposed on the loggers responsible, based on the quantity of standing trees. The loggers claim that to avoid deductions from their wages, they have to fell the smaller trees.

When the Punan Vuhang asked the camp management about this Company policy, they were told that eventually the whole forest would be converted into a palm oil estate, hence the removal of the small trees. Alarmed at such a development, the people demanded recognition of their communal land status and that forest surrounding the settlement be free from logging. Following some intense negotiations, the manager consented to the idea of *payung rumah* (a circular space around the settlement akin to an umbrella, hence the term "house umbrella") – that provides the immediate resource base for their livelihood, and verbally agreed not to log the area.

Subject to the community's consent, the Company shall pay a commission of RM2 per ton to the people for logging within this area. During 2002, the Company has been operating at an area just outside the *payung rumah*. At close proximity to the "communal forest," a series of logging activities irritated the people. Instead of seeking permission, the Company "secretly" logged part of the Natong gravity-feed pipe watershed, on the other side of the watershed that has no effect on the water supply. The Company has yet to pay any compensation for "stealing the timbers" and damaging the forest. In October 2002, the people found that not only timber was felled within the area, but also felled were fruit trees that had been marked with paint. Some of the painted tree stumps had been cut and covered with soil in a deliberate attempt to bury the markings. When the people complained and demanded compensation, the camp manager gave the excuse that the loggers from Indonesia and the Philippines did not know how to identify local fruit trees. He told the Punan Vuhang to directly negotiate with the workers themselves. As of December 2002, no settlement had been achieved.

As the forest outside the *payung rumah* has been increasingly logged out, the camp manager and his supervisors frequently come to the settlement seeking for permission to enter and log the *payung rumah.* So far, the people have refused to give in because compensation has not been paid to them. The subject of compensation for damage to forest remains the most contentious issue as the Punan Vuhang consider forest their most important property. The headman reiterated that even if their request is never entertained, they will press on, asking again and again (*muhat*) for compensation, not just for their *payung rumah*, but for their *tanok*; "their land, forest and all that live in it."

Nonetheless, although the Punan Vuhang as a community rejects the idea of logging in forest that is collectively owned by them, some individual land rights holders do not entertain such convictions. At the Kebuhor area, where the logging road descends onto the bridge across the Kajang River, some of the land owners who hold rights to the primary forest above their secondary forest have "requested" the Company to log trees in return for some payment.

Relationship with the Company

We shall now look into the relationship between the Punan Vuhang and the Company. Despite the ambivalence between the Punan Vuhang and the logging Company, the relationship is not as bad as some make it out to be. Although the Company refuses to acquiesce to the Punan Vuhang demand that their communal forest (that is not yet approved by the Forest Department) be kept free from logging, the Company management does attempt to fulfill some requests that are within its means.

When the community has a need from the Company, it usually requests for the camp manager to come to the settlement for discussion and negotiation. The manager usually turns up for the appointment. The main reason for him to visit the people, instead of them making the visit, is the difficulty in arranging transportation for the people to come to the camp. Should that be the case, he has to arrange for cars to pick them up and to send them back again. For him to come to the settlement avoids such complications. Although meetings with the community occasionally get out of hand, with protracted arguments leading to unresolved problems, the camp manager can count on the headman to bring the intense arguments under control.

On their own, closed-door meetings between the headman and the camp management are usually held in a polite manner. While disagreement is frequent, the discussion seldom descends to heated arguments, unlike meetings held in the longhouse. Each party will make an effort to listen to the arguments put forth by the other. When the manager raises his voice, the headman softens his tone to cool down the other's temper, and vice-versa. Facing such a strategy by the opponent who listens and tries to understand his position, and arguing gently, the camp manager has to adopt a mild temperament during the meetings. The headman claimed that the camp manager once remarked that he felt good discussing things with him because the headman does not speak roughly, nor talk with pride that leads to antagonistic feelings. In fact, the manager stressed it was difficult discussing things with the headman because it was not easy to put up arguments that refuted the opponent's points of view.

Probably in view of this amicable relationship, two Company Directors made two visits to the community. On the first, they advised the headman to put up a request to the Company to level the land so that the government can more easily develop infrastructure projects for the community. The directors instructed the camp management to forward the community's request to the Company's management for consideration. In mid 2002, the Company leveled a large plot of land behind the present longhouse. With the site leveled, the Administrative Officer in Charge of Penan Affairs in Belaga told the people that he had put up a budget proposal to build a new longhouse building. The first collaborated project between the government and the Company took shape with the construction of the new church building in December 2002. The government allocated RM5000 for the project, and the Company provided labor to construct the building.

The Company provided an old 4xWheel Drive vehicle and a driver for the Punan Vuhangs' transportation. The use of the vehicle is, however, limited to the Company's concessions in the Upper Balui, where the Danum Base Camp is the limit of its area. While it is provided specifically for the Punan Vuhang, upon request, individuals from the surrounding Penan communities can also make use of the car. It has a traveling schedule and a fixed

route, with a return journey taking two and a half hours from the Linau to the Danum Base Camps on Monday, Wednesday and Friday. At other times, prior arrangement with the driver for transportation within the concession area is necessary, a need, however, that is rarely required. Otherwise, the people will hitch rides on any vehicle that passes through Long Lidem to the Linau Base Camp, a journey taking only ten minutes.

Traveling to Bintulu or Belaga, the Punan Vuhang are free to hitch rides on the camp's transportation vehicle that travels daily between the Linau Base Camp and the Company's transit point in its concession areas. From there, the travelers continue their journey to Bintulu (two and a half hours) or Belaga (one and half hours) using public transportation. As the vehicle leaves the Base Camp before dawn, the travelers camp overnight at the verandah of the camp shop. They can reach Bintulu the same day, usually by noon. With the vehicle's return journey from the entrance point at noon, travelers leaving Bintulu by 8.00 a.m. can be assured of hitching a ride to reach home by evening.[1]

On a personal level, the Company workers maintain a friendly relationship with the people. When not pressed for time, the foremen who drive their own vehicles usually pass by the settlement to check if anybody has brought back game or fish for sale. More frequently, they hang around chatting with the people while waiting for a hunter or someone fishing to return. Returning to the camp, anyone can hitch a ride. In the evening, some of these drivers pass by the settlement to bring the people to the camp shop and then send them back home. The amicable relationship works both ways; during the fruit season the people invite them in to eat fruit in the corridor. At Christmas, they invite the workers to visit their homes.

In one incident, the people recalled that the foremen went out of their way to help them. A rumor circulated that the Registration Department was to visit the downriver Long Tanyit Penan settlement to make Identity Cards. Punan Vuhang individuals who had not registered with the department went there. For two days, they waited for the department staff who never came. On the second day, when the foremen, as usual, visited the Long Lidem settlement, they were asked to bring food to those waiting at Long Tanyit. At midnight, on their initiative, six Company vehicles, making a few return trips, came to bring them home.

Comparing this with the situation of the Penan communities, the relationship between the Punan Vuhang and the Company has been cordial. At a social level, they treat the Company personnel well, just like how they have always extended their hospitality to visitors. The workers reciprocate in ways that they can offer – providing transportation wherever possible.

Conclusion

The impending arrival of the logging Company in 1998 was seen as an inevitable but dreadful event. Rather than being passive, Punan Vuhang made a three day's journey to request the Company to spare an area from being logged. In later negotiations over compensations, where both parties failed to achieve agreements, they sought the help of the government authority which helped to arbitrate in their favor. However, lacking documentary

[1] According to informants, while the Punan Vuhang do not face rejection, the drivers often refuse assistance to Penan by giving various excuses. For example, they would say that heavy rain somewhere caused the timber trucks to be stuck in the mud, or as they had to pick up the drivers along the way, there was no space for additional travelers.

evidence to support their claim of traditional rights to forest and land, nothing could stop logging from being carried out.

The Punan Vuhang now face a certain but bleak future of environmental degradation and resource deprivation. Worsening the dilemma is the problem of alcohol addiction that increases their depression over their inability to stop logging from destroying their livelihood. The strategy employed by their forefathers to move away from danger can no longer be used. There is no place that the Punan Vuhang can seek refuge to maintain a way of life that is free from external influence. Now they must adapt to a new way of life and cope with resource loss.

Nonetheless, by looking at their former mobile economy, social organization, and their responses to past events that have affected them, I believe that the community may be able to figure out on their own how to cope with these drastic changes. For example, in their mobile economy, they constantly adapted to changing situations in the rainforest, coped with food scarcity, and overcame game animals that had become wary of hunters. The traumas that they have survived, including mass deaths during their adoption of settlement and cultivation in 1968 to 1971, points towards that possibility.

While the headman has lost his leadership standing among community members, another individual has risen to take over the role to lead the community. He is knowledgeable, and from my own experience, he is keen to learn new knowledge. As a chief deacon, during his frequent travels to Belaga to meet church leaders and other individuals, he may learn how to deal with the depressing situation. He is an honest person and may inspire people to put their trust in him in dealing with the Company. In one incident that I personally know of, the logging camp canteen operator asked him to take aloewood to Belaga for sale and let him decide the grades and prices of the incense wood. I remarked to the operator what if he were to be cheated on the price. The operator said that would not happen, for this man is very honest. People have asked him to take over the leadership but he has refused. For that, when the headman needs to hold a communal meeting, he will ask the chief deacon to initiate the gathering so that people will come to listen to him, provided he is not drunk. With such unity and experience in dealing with adverse situations, there is hope that the Punan Vuhang may rise to the occasion in facing the impact of logging.

Chapter Twelve: Conclusion

This dissertation has traced how the Punan Vuhang's adaptation to a rainforest environment has changed over time. It began with a tentative reconstruction of their past and then addressed the question of why they abandoned their former hunting and gathering economy. Today, the Punan Vuhang are no longer full-time hunter-gatherers; they have established themselves in a permanent village and are part-time farmers as well. As such, this dissertation is also an ethnographic study of the community as it was during my principal fieldwork. As the community enters into the 21st century, it faces the effects of logging and permanent deforestation.

The study thus concludes by looking at the changing mechanisms by which the Punan Vuhang are attempting to adapt to this present-day loss of forest resources. My reconstruction of their past is based on participant-observation, augmented by interviews with knowledgeable informants who were able to recall their former nomadic life. Later sections on farming, current hunting and gathering, and the effects of logging are based on participant-observation and interviews. Finally this dissertation attempts to bring the Punan Vuhang into a wider comparative context by relating its findings to those of studies of other hunter-gatherer communities in Borneo.

At the onset of this dissertation, I referred to a debate between "traditionalists" and "revisionists" concerning the ability of hunter-gatherer communities to rely completely on the tropical rainforest for food, without dependence on farming societies. My study supports the position of the traditionalists and suggests that the Punan Vuhang, although they engaged in trade with outsiders, were nonetheless independent of shifting cultivators for food. I reached this conclusion by posing three questions related to their survival and adaptation to the rainforest. These questions were: 1) What food sources were available to Punan Vuhang hunter-gatherers? 2) How did the Punan Vuhang hunt and gather these foods? and 3) How did they cope with periodic food shortages?

In answering the first two questions, the materials presented in Chapters Two and Three showed that a great variety of food was naturally available in the rainforest. During seasonal periods of fruiting, food was abundant, while in times of scarcity, sago and keystone species sustained life in the forest. To understand this better, we looked at the Punan Vuhang's perceptions of forest cycles, reconstructing three interconnected cycles of abundance followed by an irregular period of scarcity. We presented a seasonal calendar that covered only the period for which the Punan Vuhang measured time, starting with the appearance of mass flowering and ending with the beginning of food scarcity. After that, the Punan Vuhang no longer measured time, as there was no way to know when the next major flowering would begin.

The second cycle revolved around ease versus difficulty in hunting. Fruit abundance brought about an animal population explosion due to new births and the arrival of migratory animals. With many animals foraging on fruits, they became easy prey. After the fruit season ended, food scarcity caused animals to forage far and wide, making it difficult for hunters to locate them. Encounters with human hunters as predators also caused some species to develop avoidance habits.

These data support the argument of Brosius (1991, 1992), Dentan (1991), and Endicott and Bellwood (1991) that the tropical rainforest is an ecosystem that contains a great diversity of resources sufficient to sustain a hunter-gatherer population. This analysis goes against the "Green Desert Theory" that maintains that most tropical rainforest plants exist primarily in the form of inedible woody tissue. Further, the argument by the revisionists that birds and animals living high up in the tree canopy are difficult to obtain, and that ground-dwelling animals are widely dispersed and so require too high an expenditure of energy to capture, can be discarded once we consider Punan Vuhang hunting methods. In concurrence with the assertions of Colinvaux and Bush (1991:155), Punan Vuhang hunting methods overcame these difficulties. Hunters used blowpipes with poisoned darts to shoot primates and birds living high in the tree canopy and used hunting dogs to sniff out and corner wild boars. They set noose traps to snare ground-dwelling animals and set traps in the river to catch fish. All these activities have been observed and recorded in detail by researchers studying hunter-gatherers in Borneo (for example, Brosius 1991, 1992; Puri 2005; Sellato 1994). When nothing else could be obtained, the Punan Vuhang relied on sago, a widely available and aseasonal food source found in clumps consisting of dozens and dozens of palms. This observation is consistent with Brosius (1991) who stated that sago is the main staple food and that it enabled Penan hunter-gatherers of Sarawak to live in remote forests faraway from farming societies. Sago to the hunter-gatherers of Borneo was thus like the wild yams and edible tubers that allowed subsistent foraging among the Batek hunter-gatherers of Peninsular Malaysia (Endicott and Bellwod 1991) and the Aka pygmies of the western Congo basin (Bahuchet, McKey and de Garine 1991).

These two cycles showing initial food abundance followed by food scarcity allowed us to understand a third cycle involving mobility, for it was the practice of a mobile economy that enabled Punan Vuhang to overcome food scarcity. This understanding in turn provided us with the answer to our third question, that of how the Punan Vuhang coped with periodic food shortages. Whatever the season, when a group began to exploit a new area, food was relatively abundant. They processed mature sago into starch and hunted animals that were still unfamiliar with human predation. After depleting the sago and larger game, they moved to a new area to begin a new cycle of food exploitation. If the period of food scarcity was prolonged, the Punan Vuhang expanded the variety of food they hunted to include, for example, bats, all kinds of birds, civets, crabs, various kinds of eggs, frogs, pangolins, sago larvae, snails, snakes and tiny squirrels (see also, for example, Dentan 1991 and Endicott and Bellwood 1991 for the hunter-gatherers of Peninsular Malaysia). When rivers were low, they caught or trapped fish. When a hunter failed to obtain game, he collected palm and rattan shoots. In such lean periods, young hunters traveled further afield in search of resources that they had conserved earlier (see Chapter Four). When the situation became dire, they resorted to pork lard that had been stored underground beside cold mountain streams.

In addition to mastering the means by which a wide range of food could be obtained, coping with food scarcity also involved gaining an in-depth knowledge of the environment and its resources, a subject explored in detail for the Penan Benalui of East

Kalimantan by Puri (2005). Hunter-gatherers systematically combed the forest and kept in their memory the locations of sago groves, fruit trees and places that attract animals such as salt-licks and wallowing ponds. Armed with this knowledge, hunters brought their specially-bred dogs to hunt wild boars or used blowpipes to shoot tree-dwelling animals and birds.

Should an individual hunter fail to obtain game, he did not have to worry about going hungry, for the Punan Vuhang organized themselves so that successful hunters and gatherers shared their food with others. The obligation to share and to reciprocate acted as a device to reduce risk (see Wiessner 1977 and Cashdan 1985) and so ensured the collective well-being and survival of the community as a whole. During long periods of scarcity, Punan Vuhang notions of leadership also enhanced their ability to cope with food shortages. The community followed a leader whose superior knowledge of resource grounds helped them locate areas containing sago or game. In the absence of such leadership, individual households relied on themselves, for socialization ensured that every individual acquired basic survival skills (see Puri 2005:278-283). When food was extremely scarce, households came together in small bands which separated from each other to find their own food. Solitary foraging was possible because egalitarian notions common among hunter-gatherers enabled them to make their own decisions without concern for others. Such individualism can be explained by two theories. The first is Gardner's adaptive-child-training theory that asserts that hunter-gatherers tend toward self-reliance, independence and individual achievement (Gardner 1991). In the second, the nomadic-food-quest theory, Lee and DeVore (1968) propose that the egalitarian, flexible, individualized social life of foragers is shaped by their nomadic food quest for dispersed and variable food resources.

Such diverse strategies made it possible for hunter-gatherers like the Punan Vuhang to survive long periods of scarcity and strengthened the case for their being able to subsist without depending on agrarian people for food. The last piece of evidence considered was that of trade. Hoffman (1984, 1988) contends that Punan hunter-gatherers were originally agriculturalists who became hunter-gatherers in order to trade forest produce for agricultural products. Brosius (1991), on the other hand, argues that no agricultural products entered into trade between shifting cultivators and hunter-gatherers. To consider this argument, we looked at the ethno-historical evidence. According to Punan Vuhang oral history, there were originally only Punan groups occupying the Rejang River basin. When shifting cultivators first migrated into this area, the Punan Terkalet attacked them. They fought against the Iban and the Kayan, even attacking Kayan traders seeking to visit them. When the Kayan took revenge, the Punan Terkalet sought refuge among the Punan Vuhang. The Punan Nuo followed and also merged temporarily with the Punan Vuhang.

Decades later, these groups faced threats from the Kenyah, another group of shifting cultivators who came to populate parts of Central Borneo that the Kayan had abandoned. The Punan then retreated into the headwaters of the Danum, Linau and Bahau, all tributaries of the upper Balui. This uninhabited area was inaccessible due to long stretches of impassable rapids, waterfalls and mountains. The Punan Terkalet and

Punan Nuo made this their new home while the Punan Vuhang returned to their original home in the Balui headwaters. Then, events of the early 20th century involving Iban aggression brought them together before the Punan Vuhang settled down in the Kajang basin in 1968.

Three inferences can be made from this outline of oral history. First, before the Punan Vuhang migrated to their present area, they could not have depended on shifting cultivators for food because they had no regular contact with cultivators. Second, after they migrated into their present area, if the Punan had depended on shifting cultivators for food, it is unlikely they would have attacked them. In fact, from the 18th century onwards, the Punan were constantly on the move, fleeing from expansionistic shifting cultivators. We can only deduce that the Punan Terkalet acted in such a hostile way because they had no need of cultivated food. Third, from the turn of the 20th century up to 1968, when they settled down, trading for food was never an option because expeditions into Punan Vuhang country took up to three or more months and involved hauling boats over rapids and then crossing mountain ranges. By the end of this journey, the traders' own food rations were exhausted. Thus, instead of offering food in trade, visiting traders depended on the Punan Vuhang for their own food. Rather than food, traders brought with them items such as adzes, knives, cooking pots, clothes and tobacco for which the Punan Vuhang offered various forest products in return. Supporting Brosius's (1991) argument against Hoffman (1984, 1988), even though they engaged in trade, the Punan Vuhang appear to have relied in the past entirely on themselves for food.

The ethno-historical evidence thus suggests that the Bornean rainforest was scarcely a "Green Desert" and that trade with farming societies was not the way in which the Punan Vuhang subsisted. Having made the case for Punan Vuhang self-sufficiency, we turned to the question of why the Punan Vuhang took up farming and settled down.

We began by comparing the case of Punan Vuhang with Sellato's (1994:171-175) observation of the process of settling down among other Punan hunter-gatherers in Indonesian Borneo. According to Sellato, there are three gradual phases of settling down. In the first phase, traders persuaded the Punan to settle at a trading post so that the forest products would not be traded elsewhere. In addition, with women working the farms, men could concentrate on collecting forest products. Initially a few households could be persuaded to settle and they planted hardy crops which were easy to cultivate like cassava and bananas. Then, during the second phase, they planted some rice and continued to collect forest products. While some remained in the second phase, others went on to the third phase and became full-time farmers.

In Chapter Seven, we described the Punan Vuhang's experience in settling down. This differs notably from the process outlined by Sellato. Instead of a few households taking up farming, the Punan Vuhang made a collective decision to settle down together. Informants mentioned that the decision to take up cultivation was not without controversy, for the elders were initially against it. However, the elders gave in to the young members when they insisted on taking up the new way of life. After they had cleared small patches of forest for planting, they realized they had no seeds. They then

walked for two weeks to collect rice seeds, cassava stems and banana shoots from the nearest Punan group in Kalimantan that had taken up farming earlier. After planting, they did not weed their fields. As a result, they obtained a meager amount of rice which, owing to their lack of knowledge, was harvested unripe and tasted bitter. This case of adopting farming without prior knowledge appears to be uncommon among hunter-gatherers in Borneo who learned farming from their neighbors and/or traders (Sellato 1994:171-2; Puri 2005:162; Jayl Langub 1974:297).

During the two consecutive years after having adopted farming, the Punan Vuhang contracted malaria and many died. They thought the deaths and meager harvest were spirit punishment for abandoning their traditions. Much weakened by illness, only a few were able to collect sago. Almost starving, they were on the verge of giving up cultivation when an influential leader persuaded them to persevere. Instead of spirit punishment, he argued that their ignorance was the cause of their farming failure. As a shaman, the leader could not find any spirit connection to the deaths. He argued that since they had already begun cultivation, they should continue with it until they had mastered the necessary skills.

The community relented and as they entered into the third year of cultivation, their lot improved. They regained their health and were able to collect sago. With more food, their dogs recovered from starvation and were able to hunt wild boars. Cassava and bananas planted in the first cultivation had ripened and the occurrence of a major fruit season provided them with an abundance of food. They gained confidence in their ability to farm and constructed durable shelters at Long Lidem where they have lived ever since.

We then addressed the question of why the Punan Vuhang took up farming despite having no knowledge of this new activity. During the 1963-1966 Malaysia-Indonesia confrontation, British Commonwealth Forces patroled the border areas where the Punan Vuhang lived. For strategic reasons, the soldiers followed the Punan Vuhang wherever the latter camped. Hunters exploring the forest helped to look out for enemy soldiers crossing into Sarawak. The soldiers were generous and gave them food and tobacco which allowed the Punan Vuhang to remain longer in each camp. Life was easy and the young people took a liking to staying a long time in each place, instead of constantly moving about looking for food.

This suggested a change of mind that influenced the young Punan Vuhang to consider taking up cultivation. At the end of Confrontation, representatives of the Malaysian government tried but failed to persuade the Punan Vuhang to settle. A Kayan trader with a good relationship with the Punan Vuhang saw the advantages of settlement for the Punan Vuhang community and tried to convince them to settle. According to the Punan Vuhang, the trader told them that by settling down, traders could visit their settlement easily rather than having to travel and search for them over a wide area. He also told them that by planting food, they could remain in one location. The trader advised them to adopt *Adet Bungan* to avoid negative auguries that would otherwise hinder their farm work, and in order to avoid having to flee from death-sites. The older generations, as mentioned above, were reluctant to abandon their traditional life. On the

other hand, the younger members of the community, having experienced the comfort of living for long periods in a single camp, found the idea compelling. They were adamant and the elders gave in to their demand.

The community, having made up its mind to settle, persisted with the decision, and despite the occurrence of deaths and other hardships during the first two years of farming, they endured. It also happened by chance that two Indonesian Kayan men visited them and taught them proper farming methods. The Punan Vuhang eventually became successful farmers. Nonetheless, they did not enter into the third phase of what Sellato calls the "irreversible shift" when hunter-gatherers become full-time farmers and no longer collect forest produce for trade, for the Punan Vuhang continue to trade whenever traders visit them.

A crucial factor that determined the transition from a nomadic life to sedentism was the role of Punan Vuhang leadership. In Chapter Five, we noted that an individual with leadership qualities drew people to follow him because his opinions usually proved to be correct and so beneficial to the community. Even when the people went against his opinion, a good leader would not sulk, but instead would lead the people to carry out whatever the community had decided. Hence, in the first instance, when the elders' opinion was disregarded, Negen, the community leader at the time, out of concern for the group's unity, urged them to adopt the new course of life. Later, he was able to persuade the community to persevere.

Chapter Nine and Ten provided an ethnographic account of how the Punan Vuhang have changed as a result of settling down. While staying permanently in one place along the Kajang River, the Punan Vuhang not only farm but they continue to hunt, fish and gather, although limiting themselves to the middle reaches of the Kajang basin and adjacent watersheds. This is an area covering 30 square miles, compared to the area of 1500 square miles that they had exploited when they were nomadic. With this 98% reduction in area they exploit, the Punan Vuhang have had to adjust their hunting methods. Frequent hunting causes animals to develop avoidance habits to elude hunters. Hunters no longer use blowpipes or noose traps. They still use hunting dogs to track, pursue and wear down wild boars and now often hunt with shotguns. They now use boats for hunting, thereby extending their hunting range. Also with boats, they use cast nets and fixed gill-nets for fishing. With cultivation, Punan Vuhang seldom consume sago, which has now become a famine food for use in times of food scarcity, as evidenced in 1994 when a flash flood swept away the community's newly harvested rice.

In resource tenure, too, we see a dramatic change. Cultivation and living in durable houses have altered resource rights. The household that first clears a plot of forest for planting holds private rights to the land and to its yield. This notion of private rights to the fruits of one's labor helps make the Punan Vuhang successful cultivators, as individuals are willing to put in effort to produce their own food. In contrast, among some Penan of Sarawak, who hold common property rights to crops, individual farmers are reluctant to put much effort into planting, as they cannot stop others from taking their crops. Consequently, they continue to harvest wild sago as their staple for several months a year, unlike Punan Vuhang who harvest sago only in times of famine.

In barter trade, change is even greater. While they now plant tobacco and no longer buy it or exchange for it, many Punan Vuhang depend on traders for *kaki tiga*, a kind of stimulant and painkiller. Being addicted to *kaki* to relieve pain and fatigue, most persons work very hard to produce trade goods to barter for the drug. The provision of credit by some traders allows purchase of costly items such as chainsaws and outboard motors. In turn, chainsaws and motors require fuel to operate, which the Punan Vuhang can only buy with cash at the downriver logging camp. This makes the Punan Vuhang demand cash from traders for their rattan products.

In comparison to longhouse shifting cultivators (Chan 1991; Chin 1985; Rousseau 1977), the Punan Vuhang cultivate very small farms. This is because hunting continues to be an important activity that requires them to devote much time to it; hunting from daybreak to late evening, even during busy periods in the farming year. In contrast, longhouse farmers concentrate on farming large swiddens in order to produce enough rice to last through the year. The Punan Vuhang, on the other hand, plant less rice for they eat a variety of other staples, namely cassava, bananas, yams and potatoes. Except for rice, these plant crops continue to yield a return two or three years after planting. A swidden that can produce food for up to three consecutive years does not need to be large. Because of these small swiddens, most Punan Vuhang men cultivate alone, without the cooperation of others. In almost all cases, in contrast to neighboring swidden cultivators, the women do not accompany their husbands to work the farms. This lack of communal work and the non-involvement of women in farming is consistent with their experience as hunters. Having practiced solitary hunting, Punan Vuhang men do not find it difficult to work their farms by themselves. A longhouse shifting cultivator would find it almost impossible to do such monotonous farm work alone (see, for example, Chan 1991:141; Rousseau 1977:138).

This prior situation of food sufficiency, from the past through 2001, was shattered as the Punan Vuhang entered the 21st Century. In 2001, logging intruded into the remote rainforest and since then has drastically impacted the Punan Vuhang, both physically and socially, as it has left an altered, empty landscape littered with fallen branches and muddy soil. The Punan Vuhang feel frustrated and angered with this wanton destruction of their forest. They spend much time hunting in distant forests, but often return empty handed. Instead of sharing, successful hunters sell meat to loggers whose demand is insatiable. Many Punan Vuhang men frantically search for scarce aloewood to sell before it is destroyed by logging. Consequently, they neglect their farms and they have to buy rice and sago starch from the logging camp's grocery shop. Hence, with deforestation, it seems that they have now become truly dependent on outsiders for food. Disturbed by these events, a grandmother whose voice reflects the feelings of others, lamented that their knowledge based on a pristine forest environment is now useless. To survive, they need new skills but she is doubtful whether they know where to acquire the knowledge. She fears her people will end up begging for money, like others she saw on her travels to the towns. Unable to bear such helplessness, many Punan Vuhang have resorted to alcohol and frequently become drunk.

Faced with this present situation, we may wonder whether the settled Punan Vuhang will be able to survive the destruction of the forest environment upon which they depended in the past. As the forest disappears, hunting and gathering are likely to come to an end. The Punan Vuhang, who have taken up farming but continue to hunt and gather, will eventually be forced to enter into what Sellato (1994) calls the final phase of sedenterization – the "irreversible shift" – when hunter-gatherers become full-time farmers. Indeed, historically, there have been hunter-gatherers with close contacts with farming communities who have fully settled on their own. It is likely that the rapid deforestation will accelerate this process among the Punan Vuhang. We can only hope that their past resilience will prevail over the tendency to escape into alcohol addiction, and the Punan Vuhang will adapt and survive to become successful farmers.

BIBLIOGRAPHY

Altman, John C.

1984 Hunter-gatherer subsistence production in Arnhem Land: The original affluence hypothesis re-examined. *Mankind* 14:179-190.

Anderson, J. A. R.; A.C. Jeremy and The Earl of Cranbrook

1982 *Gunung Mulu National Park: A management and development plan*. London: Royal Geographical Society.

Applin

1918 Third division March report. *Sarawak Gazette* April 16

Ashton, P.S.

1982 Dipterocarpaceae. *Flora Malesiana* 9:237-552.

Bahuchet, Serge

1992 Spatial mobility and access to the resources among the African Pygmies. In: *Mobility and territoriality; social and spatial boundaries among foragers, fishers, pastoralists and peripatetics.* Edited by M. Casimir and A Rao. N.Y. / Oxford: Berg

Bahuchet, Serge, and H. Guillaume

1982 Aka-farmer relations in the Northeast Congo basin. In: *Politics and history in band societies*. Edited by Eleanor Leacock and Richard Lee. Cambridge; New York: Cambridge University Press.

Bahuchet, Serge, Doyle McKey and Igor de Garine

1991 Wild yams revisited: Is independence from agriculture possible for rain forest hunter-gatherers? *Human Ecology* 19:213-243.

Bailey, Robert C. (et al)

1989 Hunting and gathering in tropical rainforest: is it possible? *American Anthropologist* 91:59-82.

Bailey, Robert C., and Nadine R. Peacock

1988 Efe Pygmies of Northeast Zaire: subsistence strategies in the Ituri forest. In: *Coping with uncertainties in food supply*. Edited by I. de Garine, and G.A. Harrison. Oxford: Oxford University Press. Pp. 88-117.

Barnard, Alan

1983 Contemporary hunter-gatherers: Current theoretical issues in economy and social organization. *Annual Review of Anthropolo*gy 12:193-214.

Beccari, Odoardo

1904 *Wanderings in the great forests of Borneo*. London: Archibald Constable and Co. Reprinted by Oxford University Press, Singapore. 1986.

Bicchieri, M.G.
1990a Comment on Solway and Lee. *Current Anthropology* 31:123.
1990b Comment on Wilmsen and Denbow. *Current Anthropology* 31:507.

Bird-David, Nurit
1988 Hunter-gatherers and other people: a re-examination. In *Hunters and gatherers*, *I: history, evolution and social change*. Edited by Tim Ingold, David Riches and James Woodburn. Oxford: Berg.
1990 The Giving Environment: Another perspective on the economic system of gatherer-hunters. *Current Anthropology* 31:183-196
1992a Beyond `the hunting and gathering mode of subsistence': culture-sensitive observations on the Nayaka and other modern hunter-gatherers. *Man* (N.S) 27:19-44.
1992b Beyond `the original affluent society': a culturalist formulation. *Current Anthropology* 33:25-48.

Blackburn, R.H.
1982 In the land of milk and honey: Okiek adaptations to their forests and neighbours. In: *Politics and history in band societies*. Edited by Eleanor Leacock and Richard Lee. Cambridge; New York: Cambridge University Press. Pp. 283-305.

Bose, N.K.
1956 Some observations on nomadic castes of India. *Man In India* 36:1-6.

Brosius, J. Peter
1986 River, forest and mountain: The Penan Gang landscape. *Sarawak Museum Journal* 57:173-84.
1988a A separate reality: comments on Hoffman's The Punan: hunters and gatherers of Borneo. *Borneo Research Bulletin* 20:81-104.
1988b The Penan of the Belaga District: Considerations for Development. Confidential report
1991 Foraging in the tropical rain forests: The case of the Penan of Sarawak, East Malaysia (Borneo). *Human Ecology* 19:123-150.
1992 The axiological presence of death: Penan G@ng death names. Ph. D dissertation. University of Michigan, Ann Arbor

Brown, Donald E.
1991 The penis pin: an unsolved problem in the relations between the sexes in Borneo. In: *Female and male in Borneo: contributions and challenges to gender studies*. Edited by Vinson H. Sutlive, Jr. Borneo Research Council Monograph.

Bruenig, Eberhard F.
1996 *Conservation and management of tropical rainforests: An integrated approach to sustainability*. Cambridge: CAB International.

Buege, Douglas J.
1996 The ecologically noble savage revisited. *Environmental Ethics* 18:71-88

Burgess, P.F.,
1972 Studies on the regeneration of the hill forests of the Malay Peninsula. The phenology of the dipterocarps. *Malaysian Forester 35:103-23.*

Caldecott, Julian
1987 *Hunting and wildlife management in Sarawak.* Kuala Lumpur: World Wildlife Fund Malaysia.

Cashdan, Elizabeth
1980 Egalitarianism among hunters and gatherers. *American Anthropologist* 82:116-26.
1985 Coping with risk: reciprocity among the Basarwa of northern Botswana. *Man* (N.S) 20:454-74.
1990 (Ed.) *Risk and uncertainty in tribal and peasant economies*. Boulder, Co.: Westview Press.

Chan, Henry
1991 Historical development of the Belaga Kayans and their land tenure system: A case study of a Kayan community in Sarawak. Master of Philosophy Dissertation, University of Malaya.
1995 *The Penan Talun of Long Belangan: An ethnographic report*. *Community studies in the Bakun Hydroelectric Project Area. Report No.* 3. A report submitted to the State Planning Unit, Chief Minister's Department, Sarawak.

Chan, Henry and Lim Teck Ghee
1992 The Kayan land tenure: Coping with a crisis. *Paper presented to Borneo Research Council 2nd Biennial International Meeting, Kota Kinabalu, 13-17 July 1992.*

Chin, S.C.
1977 Shifting cultivation: a need for greater understanding. *Sarawak Museum Journal* 25:107-128
1985 *Agriculture and resource utilization in a lowland rainforest Kenyah community*. Kuching: Sarawak Museum. Special Monograph No. 4 of the Sarawak Museum Journal vol. 35.

Chivers, D.J., (ed.)
1980 *Malayan Forest Primates: Ten years' study in tropical rain forest.* New York: Plenum Press

Christensen, Hanne
2002 *Ethnobotany of the Iban and the Kelabit.* A joint publication of Forest Department Sarawak, Malaysia; NEPcon, Denmark; and University of Aarhus, Denmark.

Clastres, P.
1972 The Guayaki. In: *Hunter-gatherers today*. Edited by M.G. Bicchieri. New York: Holt, Rinehart and Winston. Pp. 138-174.

Colinvaux, Paul A., and Mark B. Bush
1991 The rainforest ecosystem as a resource for hunting and gathering. *American Anthropologist* 93:153-160.

Cunynghame, P.F.
1902a Upper Rejang. *Sarawak Gazette* Jan 2: 12
1902b Upper Rejang. *Sarawak Gazette* April 1:76

Daes, Erica-Irene
1997 Indigenous people and their relationship to land. *Preliminary working paper prepared by Mrs. Erica-Irene Daes, Special Rapporteur to the Commission on Human Rights: Sub-commission on prevention of discrimination and protection of minorities, Forty-ninth session*. Economic and Social Council of the United Nations. E/CN.4/Sub.2/1997/17.

Deetz, J.
1968 Hunters in archaeological perspective. In: *Man the Hunter.* Edited by Richard B Lee and Irven DeVore. Chicago: Aldine. Pp. 218-85.

Dentan, Robert K.
1991 Potential food resources for foragers in the Malaysian rainforest: sago, yams and lots of little things. *Bijdragen tot de taal-, land- en volkenkunde* 147:420-444.

Deshon, H.F.
1900 *Sarawak Gazette* Dec 1:227

Dove, Michael R.
1983 Theories of swidden agriculture and the political economy of ignorance. *Agroforestry Systems* 1:85-99.
1985 *Swidden agriculture in Indonesia: the subsistence strategies of the Kalimantan Kantu*. New York: Mouton Publishers.

Dowling, J.
1968 Individual ownership and the sharing of game in hunting societies. *American Anthropologist* 70:502-507.

Eibl-Eibesfeldt, Irenäus
1991 On subsistence and social relations in the Kalahari. *Current Anthropology* 32:55-57

Ellis, D. B.
1972a A study of the Punan Busang, I: The community. *Sarawak Museum Journal* 20:237-254.
1972b A. Species of birds observed whilst journeying, and those ringed and photographed at Punan Busang. B. Busang bird names according to Rahoot Nigan and others. *Sarawak Museum Journal* 20:289-298.
1975 A study of Punan Busang, I: The community. *Malaysian Nature Journal* 28:123-140

Ellis, D.B., and J. A. Ellis
1972 A Study of the Punan Busang, VI: Tatoo. *Sarawak Museum Journal* 20:281-282.

Ember, R. Carol, and Malvin Ember
1996 *Anthropology*. Upper Saddle River, New Jersey: Prentice Hall.

Endicott, Kirk M.
1979 *Batek Negrito Religion: The worldviews and rituals of a hunting and gathering people of Peninsular Malaysia.* New York / Oxford: Clarendon Press

1983 The effects of slave raiding on the aborigines of the Malay Peninsula. In: *Slavery, bondage and dependency in Southeast Asia*. Edited by A. Reid and J, Brewster. Brisbane: University Queensland Press.
1984 The economy of the Batek of Malaysia: annual and historical perspectives. *Research in Economic Anthropology* 6:29-52.
1988 Property, power and conflict among the Batek of Malaysia. In: *Hunters and gatherers. Vol. 2 Property, power and ideology.* Edited by Tim Ingold, David Riches and James Woodburn. Oxford; Berg: St Martin Press. Pp. 110-127.

Endicott, Kirk M., and Peter Bellwood
1991 The possibility of independent foraging in the rain forest of Peninsular Malaysia. *Human Ecology* 19:151-185.

Foley, Robert
1988 Hominids, humans and hunter-gatherers: an evolutionary perspective. In: *Hunters and gatherers. Vol. 1 History, evolution and social change.* Edited by Tim Ingold, David Riches and James Woodburn. Oxford; Berg: St Martin Press. Pp. 207-221.

Forests Ordinance
1997 Chapter 126. *Laws of Sarawak*. (1958 Edition)

Fox, Richard G.
1969 "Professional primitives": hunters and gatherers of nuclear South Asia. *Man in India* 49:139-160.

Freeman, Derek
1955 *The Iban of Borneo*. London School of Economics. Monographs on Social Anthropology No. 41. Reprinted by S. Abdul Majeed & Co. Kuala Lumpur. 1992.
1970 *Report on the Iban*. London School of Economics, Monographs on Social Anthropology no. 41. London: The Athlone Press.

Gabler, Robert, Robert J. Sager, and Daniel L. Wise.
1994 *Essentials of physical geography*. New York: Harcourt Brace Publishers.

Gardner, Peter M.
1966 Symmetric respect and memorate knowledge: the structure and ecology of individualistic culture. *Southwest Journal of Anthropology* 22:389-415.
1972 The Paliyans. In: Hunters *and gatherers today*. Edited by M.G. Bicchieri. New York: Holt, Rinehart and Winston. Pp. 404-447.
1991 Foragers' pursuit of individual autonomy. *Current Anthropology* 32:543-572.

Gifford, Gerald M.
1919 *Sarawak Gazette* December 1:312-3

Gillin, I.
1942 Acquired drives in culture contact. *American Anthropologist* 44:545-54.

Golley, F.B.
1975 Productivity and mineral cycling in tropical forests. In: *Productivity of world ecosystems*. Edited by D. Reichle, F. Franklin, and D. Goodall. Washington: National Academy of Sciences. Pp. 106-115.

Gould, Richard A.
1981 Comparative ecology of food-sharing in Australia and northwest California. In: *Omnivorous and primates: Gathering and hunting in human evolution*. Edited by R. Harding and Teleki. New York: Columbia University Press.

Griffin, P.B.
1984 Forager, resource and land use in the humid tropics: The Agta of Northeastern Luzon, the Philippines. In*: Past and present in hunter-gatherer studies*. Edited by Carmel Schrire. Orlando: Academic Press.

G.T.M.M.
1924 Peace-Making Ceremony at Kapit. *Sarawak Gazette*, Dec. 1:321-322.; 371-372

Guenther, Mathias G.
1990a Comment on Solway and Lee. *Current Anthropology* 31:127.
1990b Comment on Wilmsen and Denbow. *Current Anthropology* 31:509-10.
1995 Hunter-gatherer revisionism. In: *Encyclopedia of cultural anthropology.* Vol.2. Edited by David Levinson and Melvin Ember. New York: Henry Holt. Pp. 622-24.

Harrisson, Tom
1949 Notes on some nomadic Punans. *Sarawak Museum Journal* 5:130-146
1965a Punan Busang bird names. *Sarawak Museum Journal* 12:201-206.
1965b Three "secret" communication systems among Borneo nomads (and their dogs). *Journal of Malaysian Branch Royal Asia Society* 38:67-86

Hart, T.B., and John A. Hart
1986 The ecological basis of hunter-gatherer subsistence in African rainforest: The Mbuti of Eastern Zaire. *Human Ecology* 14:29-56.

Headland, Thomas N.
1987 The wild yam question: How well could independent hunter-gatherers live in a tropical rainforest ecosystem? *Human Ecology* 15:463-491.
1991 Holocene foragers and interethnic trade: a critique of the myth of independent hunter-gatherers. In: *Between bands and states.* Edited by Susan Gregg. Carbondale: Southern Illinois University Press. Pp. 333-40.

Headland, Thomas N., and Lawrence A. Reid
1989 Hunter-gatherers and their neighbors from prehistory to the present. *Current Anthropology* 30:43-66.

Helm, June
1972 The Dogrib Indians. In: *Hunters and gatherers today*. Edited by M.G. Bicchieri. New York: Holt, Rinehart and Winston.

Henry, Jules
1964 *Jungle people: A Kaingang tribe of the Highlands of Brazil*. New York: Random House.

Hickerson, H.
1960 The feast of the dead among the seventeenth-century Algonkians of the upper Great Lakes. *American Anthropologist* 62:81-107.

Hoffman, Carl L.
1984 Punan foragers in the trading networks of Southeast Asia. In: *Past and present in hunter-gatherer societies*. Edited by Carmel Schrire. Orlando: Academic Press.
1986 *The Punan: hunters and gatherers of Borneo*. Studies in Cultural Anthropology No 12. Ann Arbor: UMI Research Press.
1988 The "wild Punan" of Borneo: a matter of economics. In: *The real and imagined role of culture in development*. Edited by Michael Dove. Honolulu: University of Hawaii Press. Pp. 89-118.

Holmberg, A. R.
1969 *Nomads of the Long Bow*. Reprint Edition. New York: Natural History Press.

Hooker, M.B.
1999 A note on native tenure in Sarawak. *Borneo Research Bulletin* 30:28-40.

Hose, Charles
1894 *Sarawak Gazette* Page 207-208
1907 Upper Rejang. *Sarawak Gazette* Page 59

Hose, Charles and W. McDougall
1912 *The pagan tribes of Borneo*. 2 Vol. Reprinted by London: Frank Cass, 1966.

Huehne, W.H.
1959 A doctor among "nomadic" Punans. *Sarawak Museum Journal* 9:195-202

Hutterer, Karl L.
1983 The natural and cultural of Southeast Asian agriculture. Ecological and evolutionary considerations. *Anthropos* 78:169-212.

Inger, R.F., and P.K. Chin
1990 *The fresh-water fishes of North Borneo.* Sabah Zoological Society, Sabah, Malaysia. First published in Fieldiana: Zoology. Volume 45. Chicago Natural History Museum 1962.

Jayl Langub
1972 Structure and progress of the Punan community of Belaga sub-district. *Sarawak Gazette* 97:219-221.
1973 Penans and Punans. *Sarawak Gazette* April 30:73-75.
1974 Adaptation to a settled life by the Punan and Penan of the Belaga sub-district. In: *The peoples of central Borneo*. Edited by Jérôme Rousseau. Kuching: Sarawak Museum (Special issue of the Sarawak Museum Journal. Vol. 22. Pp. 295-301.

1996 Penan response to change and development. In: *Borneo in transition: People, forests, conservation, and development.* Edited by Christine Padoch and Nancy Lee Peluso. Kuala Lumpur: Oxford University Press. Pp. 103-120.
2001 *Suket: Penan Folk Stories.* Dayak Studies Monographs, Oral Literature Series, No. 2. The Institute of East Asian Studies. Universiti Malaysia Sarawak.
2004 Leadership among the Penan of Belaga District of Sarawak, Malaysian Borneo. *Contributions to Southeast Asian Ethnography* 12: 187-217.

James, B.J.
1961 Social-psychological dimensions of Ojibwa acculturation. *American Anthropologist* 63:721-46.

Jensen, Erik.
1974 *The Iban and their religion.* Oxford: Clarendon Press

Jensen, P.C.M. (et al)
1991 *Plant resources of Southeast Asia: basic list of species an commodity grouping.* Pudoc, Waginingen, The Netherlands.

Jenness, D.
1932 Second edition. *The Indians of Canada*. National Museum of Canada Bulletin 65.

Johen, Francis
1997 Customary Land Rights Under the Sarawak Land Code. *Paper presented in the Legal Pluralism: The role of customary law in preserving indigenous heritage. Kuching Hilton International, Sarawak. November 11-122, 1997*

Johnson, D.
1977 Distribution of sago making in the Old World. In: *Papers of the First International Sago Symposium 1976*. Edited by Koonlin Tan. Kuala Lumpur.

Jordan, C.F.
1983 Productivity of tropical forest ecosystems and the implications for their use as future wood energy sources. In: *Tropical rain forest ecosystem: structures and function.* Edited by F.B. Golley. Amsterdam; Oxford: Elsevier Scientific Publishing Co. Pp. 117-136.

Kaplan, H., and K. Hill
1985 Food sharing among the Aché foragers: tests of explanatory hypotheses. *Current Anthropology* 26:223-46.

Kaskija, L.
1988 Carl Hoffman and the Punan of Borneo. *Borneo Research Bulletin* 20:121-129.

Kedit, P.M.
1982 The ecological survey of the Penan. *Sarawak Museum Journal* 30:225-279

Kent, Susan
1992 The current forager controversy: real versus ideal views of hunter-gatherers. *Man* (N.S) 27:45-70.
1993 Sharing in an egalitarian Kalahari community. *Man* (N.S.) 28:1-35

Keesing, Roger
1975 *Kin groups and social structures*. New York: Holt, Rinehart and Winston

King, Victor T.
1993 *The peoples of Borneo.* Oxford UK and Cambridge USA: Blackwell.

Kirpatrick, Ivone
1905 *Sarawak Gazette* April 4:92

Kottak, Conrad Phillip
1994 The great forager debate. In: *Cultural Anthropology*. 6th Edition. New York: McGraw-Hill. Pp.100-101

Kroeber, A.L.
1928 Revised edition. *Peoples of the Philippines*. New York: American Museum of Natural History.
1945 The ancient *oikoumenê* as a historic culture aggregate: the Huxley Memorial Lecture for 1945. *Journal of the Royal Anthropological Institute* 75:9-20.

Kuper, Adam
1993a Documenting the Great Kalahari Debate. *Current Anthropology* 34:108-110.
1993b Post modernism, Cambridge, and the Great Kalahari Debate. *Social Anthropology* 1:57-71

Lake' Baling
2002 *The old Kayan religion and the Bungan religious reform*. Translated and annotated by Jérôme Rousseau. Dayak Studies Oral Literature Series No. 4. The Institute for East Studies, Uniersiti Malaysia Sarawak

Land Code
1999 Chapter 81. *Laws of Sarawak*. (1958 Edition) Incorporating all amendments and modifications up to 1.1.1999. Compiled in the State Attorney-General's Chambers, Kuching. Kuching: Percetakan Nasional Malaysia Berhad.

Leacock, Eleanor
1954 *The Montagnais "hunting territory" and the fur trade*. American Anthropological Association Memoir 78.

Leacock, Eleanor, and Richard Lee
1982 Introduction. In: *Politics and history in band societies*. Edited by Eleanor Leacock and Richard Lee. Cambridge; New York: Cambridge University Press. Pp. 1-20.

Lee, Richard B.
1965 Subsistence ecology of !Kung bushmen. Ph.D Dissertation. University of California, Berkeley.
1968 What hunters do for a living, or, how to make out on scarce resources. In: *Man the Hunter. Edited by* Richard B Lee and Irven DeVore. Chicago: Aldine.
1969 !Kung bushmen subsistence: an input-output analysis. In: *Environment and cultural behavior*. Edited by Andrew Vayda. Garden City: Natural History Press. Pp. 47-79.
1972 Work effort, group structure and land use in contemporary hunter-gatherers. In: *Man, settlement and urbanism*. Edited by P.J. Ucko, R. Tringham and D.W. Dimbleby. London: Duckworth. Pp. 177-85.
1979 *The !Kung San: men, women, and work in a foraging society*. Cambridge: Cambridge University Press.
1982 Politics, sexual, and non-sexual, in an egalitarian society. In: *Politics and history in band societies*. Edited by Eleanor Leacock and Richard Lee. Cambridge; New York: Cambridge University Press. Pp. 37-59.
1992 Art, science or politics? The crisis in hunter-gatherer studies. *American Anthropologist* 94:31-54.

Lee, Richard B., and Irven DeVore
1968 Problems in the study of hunters and gatherers. In: *Man the Hunter*. Edited by Richard B. Lee, and Irven DeVore Chicago: Aldine. Pp. 3-12.

Lee, Richard B., and Mathias Guenther
1991 Oxen or onions? The search for trade (and truths) in the Kalahari. *Current Anthropology* 32:592-601.
1993 Problems in Kalahari historical ethnography and the tolerance of error. *History in Africa* 20:185-235.
1995 Errors corrected or compounded? A reply to Wilmsen. *Current Anthropology* 36:298-305.

Leighton, M., and D.R. Leighton
1983. Vertebrate responses to fruiting and seasonality within a Bornean rain forest. In: *Tropical rainforest: ecology and management*. Edited by S.L. Sutton, T.C. Whitmore, and A.C. Chadwick. Oxford: Blackwell Scientific Publication. Pp. 181-196.

Lim, Poh Chiang
1989 *Among the Dayaks*. Singapore: Graham Brash.

Longman, Kenneth A. and Jan Jeník
1987 *Tropical rainforest and its environment*. Essex: Longman Scientific and Technical. (2nd Edition).

Low, Hugh Brooke
1884 Reports on the meetings of chiefs of Baluy. *Sarawak Gazette* 14: 94-95

Mackie, J.A.C.
1974 *Konfrontasi: The Indonesia-Malaysia dispute, 1963-1966*. Kuala Lumpur: Oxford University Press.

Marsh, C.W. and W.L. Wilson
1981 *A survey of primates in Peninsular Malaysian Forests.* Universiti Kebangsaan Malaysia, Malaysia, and Cambridge University, Cambridge.

Marshall, Luara
1961 Sharing, talking, and giving: relief of social tensions among !Kung Bushmen. *Africa* 31:231-49. Reprinted in *Man the Hunter.* Edited by Richard B Lee and Irven DeVore. Chicago: Aldine. 1968. Pp. 349-71.
1976 *The !Kung of Nyae Nyae*. Cambridge, Mass / London: Harvard University Press.

Martin, H.
1972 A study of the Punan Busang, V: Music Report. *Sarawak Museum Journal* 20:278-280
1975 A study of Punan Busang, V: Music Report. *Malaysian Nature Journal* 28:160-163

Martinez, Miguel Alfonso
1996 Discrimination against indigenous people: Study on treaties, agreements and other constructive arrangements between States and indigenous populations. *Third progress report submitted by Mr. Miguel Alfonso Martinez, Special Rapporteur. Commission on Human Rights Sub-commission on prevention of discrimination and protection of minorities*. Economic and Social Council of the United Nations. E/CN.4/Sub.2/1996/23.

Mattson Marn H. and W.B.J. Jonkers
1981 *Logging damage in tropical high forest.* FO: MAL/76/008, Working paper No.5, Kuching (Paper presented at the International Forestry Seminar 1980, Kuala Lumpur).

Mc Elroy, Ann, and Patricia K. Townsend
1985 *Medical anthropology in ecological perspective*. Boulder, CO.: Westview.

Metcalf, Peter A.
1976 Birds and dieties in Borneo. *Bijdragen tot de taal-, land- en volkenkunde* 132: 96-123.

Milton, Katherine
1984. Protein and carbohydrate resources of the Maku Indians of Northwestern Amazonia. *American Anthropologist* 86:7-27.

Morris, Brian
1977 Whither the savage mind? Notes on the natural taxonomies of a hunting and gathering people. *Man* (N.S) 11:542-557.

Myers, Fred R.
1988 Critical trends in the study of hunter-gatherers. *Annual Review of Anthropology* 17:261-282.

Needham, Rodney
1954 A note on some nomadic Punan. *Indonesië* 7:520-523
1955 A note on some Murut kinship terms. *Journal of Malayan Branch Royal Asiatic* Society 28(1):159-161

1965 Death-names and solidarity in Penan society. *Bijdragen tot de taal-, land- en volkenkunde* 121:58-76
1966 Age, category and descent. *Bijdragen tot de taal-, land- en volkenkunde* 122:1-35
1972 Penan. In: *Ethnic groups in Insular Southeast Asia*. Vol. 1. Edited by Frank LeBar (et al). New Haven: Human Relations Area Files Press. Pp. 176-180.

Ng, F.S.P.
1977 Gregarious flowering of dipterocarps in Kepong, 1976. *Malaysian Forester* 40:126-137
1981 Vegetative and reproductive phenology of dipterocarps. *Malaysian Forester* 44:197-221

Nicolaisen, Johannes
1976 The Penan of the seventh division of Sarawak: past, present and future. *Sarawak Museum Journal* 24:35-64

Oldrey, T.B.N.
1972 A study of the Punan Busang, IV: medical report. *Sarawak Museum Journal* 20:270-277
1975 A study of Punan Busang, IV: medical report. *Malaysian Nature Journal* 28

Owen, Donald A.
1924 Kapit. *Sarawak Gazette* May 1:168-169.

Page-Turner, F.A.W.
1908a Upper Rejang Affairs. *Sarawak Gazette* February 5:27
1908b Kapit. *Sarawak Gazette* June 1:143

Payne, Junaidi
1995 Links between vertebrates and conservation of Southeast Asian rainforests. In: *Ecology conservation, and management of Southeast Asian rainforest*. Edited by Richard B. Primack and T.E Lovejoy. New Haven: Yale University Press. Pp. 54-65.

Payne, Junaidi, Charles M. Francis and Karen Phillipps
1985 *A field guide to the mammals of Borneo*. Kota Kinabalu: The Sabah Society.

Pearce, C.C
1894 *Sarawak Gazette* Pp. 64
1895a *Sarawak Gazette* Pp. 178-9
1895b *Sarawak Gazette* Pp. 194-5
1896a *Sarawak Gazette* Pp. 23
1896b *Sarawak Gazette* Pp. 42

Peterson, Jean Treloggen
1978 Hunter-gatherer/farmer exchange. *American Anthropologist* 80:335-351.

Peterson, Nicolas
1993 Demand sharing: reciprocity and the pressure for generosity among foragers. *American Anthropologist* 95:860-874.

Pringle, Robert
1970 *Rajahs and rebels: the Iban of Sarawak under Brooke rule 1841-1941*. Ithaca: Cornell University Press; London: Macmillan.

Puri, Rajindra K.
2005 *Deadly dances in the Bornean rainforest: Hunting knowledge of the Penan Benalui.* Leiden: KITLV Press.

Rambo, A. Terry
1985 *Primitive polluters: Semang impact on the Malaysian tropical rainforest system*. Ann Arbor, Museum of Anthropology, University of Michigan.

Reid, Anthony
1988 *Southeast Asia in the age of commerce 1460-1680: the lands below the winds*. Vol. 1 Chiang Mai, Thailand: Silkworm Books.

Riches, David
1995 Hunter-gatherer structural transformations. *Journal of the Royal Anthropological Institute* (N.S) 1:679-701.

Rousseau, Jérôme
1974a The social organization of the Baluy Kayan. Ph. D Dissertation, University of Cambridge
1974b The Baluy Area. In: *The peoples of central Borneo*. Edited by Jérôme Rousseau. Kuching: Sarawak Museum (Special issue of the Sarawak Museum Journal. Vol. 22. Pp. 17-27).
1977 Kayan agriculture. *Sarawak Museum Journal* 22:93-152
1978 The Kayan. In: *Essays of Borneo Societies.* Edited by V.T. King. Hull Monographs of Southeast Asia no. 7. Oxford: Oxford University Press. Pp. 78-91
1990 *Central Borneo: ethnic identity and social life in a stratified society*. Oxford: Clarendon Press.
1998 *Kayan Religion: Ritual life and religious reform in Central Borneo*. Leiden: KITLV Press

Sahlins, Marshall
1968a La première société d' abundance. *Les Temps modernes* 268 (Oct.):641-80.
1968b Notes on the original affluent society. In: *Man the hunter*. Edited by Richard Lee and Irven DeVore. Chicago: Aldine.
1972 The original affluent society. In: *Stone age economics*. Chicago/New York: Aldine-Atherton.

Sandin, Benedict
1967 *The Sea Dayaks of Borneo before White Rajah Rule*. London: Macmillan.

Sarawak Gazette
1883 Mr. Low's [Hugh Brooke Low] November diary. April 1:30-33
1884 Mr. Low's [Hugh Brooke Low] December diary, 1883. May 1:41-44
1884 Mr. Low's [Hugh Brooke Low] January diary, 1884. June 2:51-55
1884 Mr. Low's [Hugh Brooke Low] February diary, 1884. July 1:71-74
1884 Rejang [Mr. Low's official diaries]. August 1:84-85

1884 [Mr. Low's official diaries]. September 1:94-95
1907 The Uma Lisooms. June 5:135
1908 April 3:88
1913 August 16:188
1916 Successful Expedition against the Gat Dayaks. May 1:78

Sather, Clifford.
1985 Iban agricultural augury. *Sarawak Museum Journal* 34:1-36.
1994 Introduction. In: *Sources of Iban traditional history.* Special Monograph No. 7, Sarawak Museum Journal 67:1-78. Benedict Sandin.
2006 Iban Augury (Island of Borneo). In: *Divine messengers: Bird Symbolism and aesthetics in Southeast Asia.* Edited by Pierre Le Roux and Bernard Sellato. Paris: Connaissances et Savoirs / SevenOrients / IRASEC. Page 763-798.

Seeley, Thomas D., R.A. Morse, and P. K. Akratanakul.
1982 Colony defense strategies of the honeybees in Thailand. *Ecological Monograph* 52:43-63

Seeley, Thomas D.
1993 The ecology of temperate and tropical honeybee societies. In: *Exploring animal behavior: readings from American Scientist*. Edited by Paul W. Sherman and John Alcock. Sunderland, Massachusetts: Sinauer Associates.

Seitz, S.
1981 Die Penan in Sarawak und Brunei: Ihre Kultur-historische Einordung und Gegenwärtige Situation. *Paideuma* 27:275-311

Sellato, Barnard J.L.
1988 The nomads of Borneo: Hoffman and "devolution." *Borneo Research Bulletin* 20:106-120.
1994 *Nomads of the Borneo rainforest: the economics, politics, and ideology of settling down*. Honolulu: University of Hawaii Press.
2002 *Innermost Borneo: Studies in Dayak cultures.* Paris: Seven Orients; Singapore: Singapore University Press.

Service, Elman R.
1962 *Primitive social organization: an evolutionary perspective*. New York: Random House.

Shott, Michael
1992 On current trends in the anthropology of foragers: Kalahari revisionism and its archaeological implications. *Man* (N.S.) 27:843-871.

Silberbauer, George B.
1981 *Hunter and gatherer in the Central Kalahari desert*. Cambridge: Cambridge University Press.
1991 Morbid inflexity and overgeneralization in Mosarwa studies. *Current Anthropology* 32:96-99.

Silberbauer, George B., and Adam Kuper
1966 Kgalagari masters and bushman serfs. *African Studies* 25:171-79.

Sloan, C.
1972 A study of the Punan Busang, III: Punan hunting methods. *Sarawak Museum Journal* 20:262-269
1975 A study of Punan Busang, III: Punan hunting methods. *Malaysian Nature Journal* 28:146-151

Smith, Eric Alden
1988 Risk and uncertainty in the "original affluent society": evolutionary ecology of resource-sharing and land tenure. In: *Hunters and Gatherers. Vol. 1 History, evolution and social change*. Edited by Tim Ingold, David Riches and James Woodburn. Oxford; Berg: St. Martin Press. Pp. 222-251.

Smith, Eric Alden, and Robert Boyd
1990 Risk and reciprocity: hunter-gatherer socioecology and the problem of collective action. In: *Risk and uncertainty in tribal and peasant economies.* Edited by Elizabeth Cashdan. Boulder, Co.: Westview Press.

Smythies, Bertram E.
1981 *The birds of Borneo*. Kuala Lumpur: The Malayan Nature Society.

Soepadmo, E.
1995 Plant diversity of the Malesian tropical rainforest and its phytogeographical and economic significance. In: *Ecology conservation and management of Southeast Asian rainforests*. Edited by Richard B. Primack and T.E Lovejoy. New Haven: Yale University Press. Pp. 19-40.

Solway, Jacqueline S.
1990 Comment on Denbow and Wilmsen. *Current Anthropology* 31:514.

Solway, Jacqueline S. and Richard B. Lee
1990 Foragers, genuine or spurious? Situating the Kalahari in history. *Current Anthropology* 31:109-146.

Speth, J., and Katherine Spielman
1983 Energy source, protein metabolism, and hunter-gatherer subsistence strategies. *Journal of Anthropological Archaeology* 2:1-31.

Spielman, Katherine A. and James F. Eder
1994 Hunters and farmers: then and now. *Annual Review of Anthropology* 23:303-23

Sponsel, Leslie E.
1986 Amazon ecology and adaptation. *Annual Review of Anthropology* 15:67-97.

Stearman, Allyn MacLean
1991 Making a living in the tropical forest: Yuquí foragers in the Bolivian Amazon. *Human Ecology* 19:245-260.

Steward, Julian H.
1936 The economic and social basis of primitive bands. In: *Essays in Anthropology in Honor of Alfred Louis Kroeber*. Edited by R.H. Lowie. Berkeley: University of California Press. Pp. 331-50.
1955 *Theory of culture change: the methodology of Multilinear evolution*. Urbana: University of Illinois Press.

Stiles, Daniel
1992 The hunter-gatherer revisionist debate. *Anthropology Today* 8(2):13-17

Strickland, S.S.
1986 Long-term development of Kejaman subsistence: an ecological study. *Sarawak Museum Journal* 36:117-171.

Tanaka, Jiro
1990 Comment on Solway and Lee. *Current Anthropology* 31:515.

Terborgh, J.
1986 Keystone plant resources in the tropical forest. In: *Conservation biology: The science of scarcity and diversity*. Edited by M.E. Soulé. Sunderland, Mass.: Sinauer Associates.

Testart, Alain
1982 The significance of food storage among hunter-gatherers: Patterns, population densities, and social inequalities. *Current Anthropology* 23:523-537.
1987 Game sharing systems and kinship systems among hunter-gatherers. *Man* (N.S) 22:287-304.

Thambiah, Shanthi
1995 Culture as adaptation: Change among the Bhuket of Sarawak, Malaysia. Ph.D dissertation. University of Hull.

Tillema, Hendrix
1938/1989 *A journey among the peoples of Central Borneo in word and picture*. Edited and with introduction by Victor T. King. Oxford: Oxford University Press. First published in 1938.

Tsugami, Makoto
1987 *Report on the Kayan of Belaga District, Seventh Division*. Kuching: Sarawak Museum.

Turnbull, C. M.
1961 *The forest people: A study of the Pygmies of the Congo.* New York: Simon & Schuster.
1968 The importance of flux in two hunting societies. In: *Man the Hunter.* Edited by Richard B Lee and Irven DeVore. Chicago: Aldine. Pp. 132-37.

Urquhart, I.A.N.
1951 Some notes on Jungle Punans in Kapit district. *Sarawak Museum Journal* 5:495-533

Walchren, E.W.F. van
1907 Eene reis naar de bovenstreken van Boeloengan (Midden-Borneo), 12 Nov. 1905 – 11 April 1906. *Tijdschrift van het Koninklijk Nederlandsch Aardrijkskundig Genootschap* 24:755-844. Cited in Rousseau 1990:217.

Wallerstein, Immanuel
1973 *The modern world-system. I: capitalist agriculture and the origins of the European world-economy in the sixteenth century*. New York & London: Academic Press.
1979 *The capitalist world system.* Cambridge: University Press.

Whitmore, T.C.
1984 *Tropical rainforests of the Far East*. Oxford: Oxford University Press (2nd. Edition).
1990 *An introduction to tropical rain forests*. Oxford: Clarendon Press.
1995 Comparing Southeast Asian and other tropical rainforests. In: *Ecology conservation and management of Southeast Asian rainforest*. Edited by Richard B. Primack and T.E Lovejoy. New Haven: Yale University Press. Pp. 5-15.

Whittier, H.L
1973 Social organization and symbols of social differentiation: An ethnographic study of the Kenyah Dayak of East Kalimantan (Borneo). Ph.D. Dissertation. Michigan State University, East Lansing.

1974 The distribution of Punan in East Kalimantan. *Borneo Research Bulletin* 6(2):42-49

Wiessner, Polly
1977 Haxaro: a regional system of reciprocity for reducing risk among the !Kung San. Ph.D dissertation. University of Michigan.
1982 Risk, reciprocity and social influences on !Kung San economics. In: *Politics and band societies*. Edited by Eleanor Leacock and Richard Lee. Cambridge; New York: Cambridge University Press. Pp. 61-84.
1990 Comment on Solway and Lee. *Current Anthropology* 31:135-6.

Wilmsen, Edwin N.
1989 *Land filled with flies: a political economy of the Kalahari*. Chicago: University of Chicago Press.

Wilmsen, Edwin N., and J. Denbow
1990 Paradigmatic history of Khoisan-speaking peoples and current attempts at revision. *Current Anthropology* 31:489-524.

Wilmsen, Edwin N., and R. Vossen
1990 Labour, language, and power in the construction of ethnicity in Botswana. *Critique of Anthropology* 10:7-38.

Wilson, E. Bryant
1972 A study of Punan Busang, II: language. *Sarawak Museum Journal* 20:255-261
1975 A study of Punan Busang, II: language. *Malaysian Nature Journal* 28:141-145

Woodburn, James
1982 Egalitarian societies. *Man* (N.S) 17:431-451.
1988 African hunter-gatherer social organization: Is it best understood as a product of encapsulation? In: *Hunters and Gatherers*. *Vol. 1 History, evolution and social change*. Edited by Tim Ingold, David Riches and James Woodburn. Oxford; Berg: St. Martin Press. Pp. 31-64.

World Rainforest Movement and Sahabat Alam Malaysia
1989 *The Battle for Sarawak's Forests*. Penang: Sahabat Alam Malaysia

Yellen, John E.
1985 The process of Barsarwa assimilation in Botswana. *Botswana Notes* Research *17:15-24*
1990a The transformation of the Kalahari !Kung. *Scientific American* 96-105
1990b Comment on 'Foragers, genuine or spurious?' *Current Anthropology* 31:137-8

Yeo, N. T.
1987 *Result of skid trail density in Hill Mixed Dipterocarp Forest.* Forest Research Report FE/1987, Forest Department Sarawak, Kuching.

Zahorka, Herwig
2006 Lethal blowpipe dart poison in Borneo and the secret of its production. *Borneo Research Bulletin* 37 (Forth Coming)

Appendix 1: Glossary

Punan Vuhang	English; Vernacular; Scientific Names
A	
adet	'way of life,' 'customs,' 'belief'
Adet Bungan	an indigenous central Borneo religious reform movement
Adet Servireh	taboo committed when a community separates into two or more groups on the same day
ahu	dog
ajat	a type of small basket
ajat kalong	small basket with woven design, produced mainly for barter trade
ajat kawang	a loosely woven basket
alum jian paung	literally (lit.,) - game completely surrounded and brought to bay with hunting dogs
amin ayak	Kayan, *amin* ayak 'headman's household'
ang	time; which
angkun	food
anui	a type of sweet-smelling leaf used by the *suket* spirit
apan	sago mashing platform
apau	plateau
aran	to see (verb)
arin	younger sibling
arok	many
arok san	Kayan, *urok san*, pineapples (*Ananas comosus*)
asal	origin, original
assee	a type of omen bird, Banded Kingfisher, (*Lacedo pulchella melanops*)
ate'	liver
avan	widower
avang	illipe nut; *Shorea* sp.
avang buang	a type of hardwood tree used to make columns and planks
avang vireh	a type of hardwood tree used to make house post
avong	a type of edible fruit of the rambutan family (*Nephelium mutabile*, *N. uncinatum* Radlk.)
avut	be afraid
ayok	big, much, a lot
ayu	female friend; address term for a girl friend used by a female speaker
B	
bado	Kayan, *bado',* jade fruits (*Artocarpus heterophyllus*)
bae	Kayan, *bae,* secondary forest
bahah	a type of easily split wood
bahak pui	live coal, ember
bahik	diligent
bajik	cool
bak	alike, same
bakeh	friend
baloh	lazy
balong	a type of river snail
balu	widow
Bangau	"crane," a brand of tobacco
bangat	sand
barak	flower, referring to all flowers
bareh	fine; small
barok	pig-tailed macaque (*Macaca nemestrina*)
barong	front portion of game
basak	see *navan basak*
batak	pole used as a sign to indicate a message or to point a direction
bat	a horizontal piece of wood in the noose trap

Note: The Glossary includes short phrases and words referred to in the text. Those in the quotations and Appendices below are not listed here as their translations appear next to the quoted texts.

Appendix 1: Glossary

Punan Vuhang	English; Vernacular; Scientific Names
batang	a fallen trunk of a tree
batin	the whole leg
batu	stone
batu orun	large boulder
batu tulik	container for keeping healing potions used by shamans
batun pui	battery
bavak	mouth
bavang	a point above the shoulder blade of an animal
bavet	a type of edible fruit
bavih	edge
bavih lanum	river bank
bavui	wild boar; the Bearded Pig (*Sus barbatus*)
bavui tone	fruit foraging wild boar
bayit	a type of fruit eaten by wild boar
bayu	strong wind
beh	let it be, signifying approval or assent
behok	augury; omen; see *otu behok*
behok gang lau	daybreak augury
belatup	explode
belahut	the spirit realm below the land
belavan	a type of hard wood
beliti	the edible rambutan fruit (*Nephelium lappaceum* L.)
ben	enough
ben telo	referring to the fat of a wild boar, lit., three fingers thick
bengo	sago shell, outer sheath of the palm trunk
benyi	now
berkaku	slow walking pace during move to a new camp
berkatih	a) a low pass on a ridge or a range that separates two river systems; b) a stretch of slope with descending and ascending gradient
bersangit	a type of civet
bertayit	pregnant
bikop	baby
bisan	parents of one's children-in-law
bisirok	lowest part of a valley, between slopes, that is usually dry
bitong	point below the shoulder blade of an animal; the most vulnerable part of a game animal, when pierced in this spot, death is instant.
bitu	fish; (*Tor douronensis*) when small, *tanguh* when mature
blian	Kayan, *blian, brideswealth*
boep	sun bear (*Helarctos malayanus*)
bohok	dry season
bohok magahan / bohok unyat	very long drought
bongak	a river that branches to form two equal sized rivers
bongat	the grey leaf-monkey or Hose's Langur (*Presbytis hosei*)
bongok	see *pelaput bongok*
bosok	broom-like pole used for burning and sweeping bees from a bee-hive during honey collecting
boson le	father-in-law
botak	mountain top
botik	inverted U-shaped green stick of a noose trap
bua'	fruit, lit., of any kind
bua' upak	a type of fruit eaten by wild boar
bua' ehyin	a type of edible fruit
bucang	a type of civet
bui	white-fronted langur (*Presbytis frontata*)
bukat	emergency summons
buku	pangolin (*Manis javanica*)
buling	fine given by a widow or widower to his/her close relatives for first sexual intercourse after the death of spouse
bulu	bamboo
bulu bangap	bamboo water container

Appendix 1: Glossary

Punan Vuhang	English; Vernacular; Scientific Names
bulu hor	bamboo cylinder
bulukuk	mountain
bulukuk pun berkatih	the stretch of slope that rose from the lowland by the river
buluvuh	a tree, its bark used to make a back strap
buruan	soul
busui	the musical bow played during a *nyangen* ritual
butek livang	the *Areca borneensis* plant with broad leaves
buvut	leaving camp for a new camp site
buwau	an omen animal
buyun	type of delicacy cooked with the blood of a wild boar hunted by the *kusi* hunting method
C	
celeyon	circling around
ciap	white (color)
ciet	edible larvae of large weevil (*Rhynchophorus ferrugineus*)
ciu	to throw (an object)
ciu otu	the phenomenon of the spirit of the dead throwing away the yield of any activity conducted for the first time since the end of mourning
civu	rising water
cukui botak	temporary separation of a married couple
D	
dak	blood
dari	they (for animal)
dayong	Kayan, *dayong*, shaman, religious teacher
dee-taa- dee-taa	Morse Code electric telegraph
dei	go from place to place
derry-can	jerry can, a five gallon container for keeping liquid (English, jerry can)
dipen	Kayan, *dipen*, slave
dogkek	dwarf - sometimes a malevolent spirit
doh	they (for human being)
dok	they, the phrase that can also refer to non-humans, as in *dok kavoh*, those who are dead
dok linau	human-beings
duo	2
dui	thorn
dungan	a type of large carnivorous fish
E	
ehyin	a type of edible fruit
G	
gahah	area within which overripe fruit drop to the ground
gahing	type of tree felled for firewood
gait	piece of tool used as a hook
galuk	breaking of an item
gantang	Malay, *gantang*, a volume measurement usually for grain
Gembala	Malay, *gembala*, Christian pastor
gen	all kinds of fish
giham	rapid
git git	scrapping last bit of pith from the sago shell
gong	a kind of brassware that when hit emits the 'gong' sound
gulak	Kayan / Malay, *gula,* sugar
gum	bring, can also mean collect
gum tokong	leader of a group or band
H	
hai	where
harin	sibling (used specifically for brother and sister)
hei-hei	whoever
heyan	8
hin	meat

Appendix 1: Glossary

Punan Vuhang	English; Vernacular; Scientific Names
hinan	mother, referring also to mother of animal, e.g., *hinan bavui*, mother pig
hipuy	Kayan, lower level aristocrat
hor	a type of large bamboo
hujan	rain
hujan tohon	heavy rain
I	
iak	and
icik	small
igek	near
ikgong	frame of sago filtering platform; see Figure 11
ikgong pok	boulders and stones used to hold cloth in place on sago filtering platform
ikgong uhuk	main part of the frame making up sago filtering platform
itpot	bait to trap fish and game
ilet	tight
inak	the address term for mother
inan	reference term for mother
ingoh	thatch leaves of roof
ingon	fed-up on food; monotonous
Injil	Bible
inu	bead for all types
irab	face
isang	ear adornments
isau	a type of edible longan-like fruit *(Pometia pinnata* Forst.; *Xerospermum sp.*; *Dimocarpus longan* Lour)
itpot	bait to trap fish and game
itu	the small fish of the *Elxis sabanus*
ivah	foot print of game animal
ivak	only
ivei	loin-cloth
ivit	a type of spirit found in the realm of the sea
ivok	hair of humans
ivun	pole for noose trap; fishing rod

Punan Vuhang	English; Vernacular; Scientific Names
J	
jait	bridge
jalak	cast net
jalik	a type of sweet-smelling leaf used by the *suket* spirit
jan	chin
janang	a type of edible fruit favored by pregnant women
janin	patron-spirit used by shaman to kill others
jangin singot	adult honey bees
jarum	curse that causes death to dwarf spirits
jayum	Crested-Wood Partridge (*Rollulus rouloul*)
jeliri'	a type of tree used for firewood
jik	1
jian	good; fine
joh	the negative reply 'no'
jongan	a) type of sport played by the spirits b) the taboo requiring waiting at the edge of the camp until nightfall before a trapper could return to his shelter
julan	9
jungap kabai	lower portion of roof connected to main roof of shelters
K	
kabun	Malay, *sabun,* soap
kai	we, inclusive of others in the same group
kajang	two sticks on a noose trap; see Figure 22
kak lolau	spirit region; lit., 'beyond the sky'
kakjiknya	next time
kakop	underneath, below
kalen	a) stuck and unable to move b) a very hard wood used as firewood
kali	realm of the dead

Appendix 1: Glossary

Punan Vuhang	English; Vernacular; Scientific Names
kali kevoh	the plain babbler bird (*Malacopteron affine*). Its signing at the beginning of the flowering season indicates an impending heavy fruiting season
kalong	a) design as in weaving b) the large carrying basket
kalop	tortoise
kaman	to eat (verb)
kan	to give, as to give something to someone
kapen	direction
kasai	a deep-fried sago dish
kasai puti	a deep-fried mashed banana dish
kasut	Malay, *kasut,* shoe
katib	piece of cloth worn by Punan Vuhang women
katu	empurau fish (*Tor Tambroides*)
kau	you
kavakob	a type of fruit eaten by wild boar
kavangoh	fruit of sago (*Eugeissona utilis* Becc.)
kavoh	to die (verb)
kavok	a type of monitor lizard
kayu	wood, as pronounced as *kayuk*
kayu bua'	wood felled from fruit trees that is used as firewood
kayu laroh	small trees about 2 inches in diameter
kayu maram	dry wood
kayu mati	a felled tree entangled with other trees or vines
kayuk busui	a ritual implement that when shaken by the shaman, produces a flute-lie sound in the spirit realm
ke	to, towards
kea nyat	ascending the slope between two streams that fork from a main stream
kea ulong	bypassing meandering section of a river by walking overland
kehep	the Ganua palm with broad leaves
kejuai	land on the opposite bank of a river
kejian	leader
kek	grandparent, granduncle, grandaunts, also used as reference term for elderly people
kekah	piglet, immature pig
kelarkin	very brave
kelavet mongo	Bornean gibbon (*Hylobates muelleri*)
kelepang	a tree, its broad leaves are used to prevent fibrous pulp from dropping and touching the ground during the sago mashing process
kelikit	to change direction when trekking
kelingo	to listen (verb)
kelipah	crossing a river to the opposite bank
kelo'ai	a type of tree used for firewood
keluar	unlucky person who frequently fails to get anything when hunting or collecting
kelunau	Kayan, *kelunau,* harvesting
kemusang	fern used to ward off harmful soul; its fruit is favored by pregnant women
kepang	wooden roof shingles
keramu	an edible type of wild olive fruit
kerangan	a type of chestnut
ketan	binturong or bear cat (*Artictis binturong*)
ketikgob	knowledgeable on a particular subject
ketitei	type of gutta purcha; wild rubber
kew	river crabs
kewoh	Plain Babbler (*Malacopteron affine*)
ke'yap	to walk (verb)
kohop	split, as to wood
kok	type of civet
koloson	the edible sago beetle (*Rhynchophorus ferrugineus* Oliv.)
kopak	Crimson-Headed Partridge (*Haematortyx sanguiniceps*)
kopi	coffee

Appendix 1: Glossary

Punan Vuhang	English; Vernacular; Scientific Names
kotokek	respectable elderly leader
Kristian	Christian
kuan	Kayan, *kuan,* brideswealth
kucei	a monkey; silvered langur (*Presbytis cristata*)
kuen	according to
kuhuwei	large tree that arches over rivers (*Dipterocarpus oblongifolius* Bl)
kulat	mushroom, fungi
kuli	clouded leopard (*Neofelis nebulosa*)
kumom	red leaf-monkey or maroon langur (*Presbytis rubicunda*)
kumulang	type of plant used to ward off harmful spirits
kun	refers to all kinds food, e.g., *kun linau* – edible food, *kun bavui* – food for wild boar
kunyuling	powerful spirit inhabiting the realm beneath the land
kusi	hunting wild boar armed only with a spear
kuvuk	to descend (verb)
kuvulung	fish (*Glaniopsis gossei*)
kuyat	long-tailed or crab-eating macaque (*Macaca fascicularis*)
L	
lagek	shallow
lahut	hot (temperature)
lahut tasak	severe stomachache on children due to eating root of *tasak,* food of *otu kunyuling* spirit
lahut luan	chest pain on children due to eating root of *luan,* food of *otu kunyuling* spirit
lajaring	a type of poisonous snake
lak	to carry (verb)
lakaruh	container for carrying blowpipe darts
lakot	a fish (*Gastromyzon spp.*)
lalat	downstream direction
lalik	taboo
lalit	tree roots
lalit guat	exposed roots on embankment of a river
langa'ne	moon
langa'ne jik	first month
langa'ne nakui	full moon
langareh	back portion of a game
langau	the elevated platform of the *lapo le* lean-to shelter (see Figure 6.)
langik	leaf shoot; sago shoot
langon	otter (*Lutra (Lutrogale) perspicillata*; *Aonyx (Amblonyx) cinerea*)
languh	house fly
languk	brother-in-law
lanum	water, also river
lanye	pig lard
lapa'un	a type of edible fruit
lapah	hand
lapo	hut
lapo pare	rice storage hut
lapo bono	simple lean-to hut
lapo le	lean-to hut with a partially raised platform with one end resting on the ground
lapo luek	durable shelter occupied up to three months
lapo jungap	durable shelter with one roof
lapo porah	durable shelter with a lower portion of roof connected to the main roof (see Figure 7)
laput	estuary of a stream
larkin	brave
laroh	small tree trunk
lasaring	omen millipede
latung laut sungei	the top part of a river
latup belati	thunder-storm
lau	day; sun; sky
laun	leaf
laut	a) upstream direction b) animals
lavavang	butterfly

Appendix 1: Glossary

Punan Vuhang	English; Vernacular; Scientific Names
lavu	house, longhouse; different from *lapo* – simple shelter
lawang	a plant, its broad leaves are used to prevent fibrous pulp from dropping and touching the ground during the sago mashing process
le	man, male
legeheh	a type of plant used for healing rituals
legehek	omen bird; trogon (*Harpactes spp.*)
legereh	small sticks placed across horizontal stick in a noose trap
leheh	Hose's Civet (*Hemigalus hosei*)
lehik	new
lejeb tatang	rock bar along a shallow part of river
lemakje bulukuk	top of a slope
lemirik	Kayan, *lemirik*, slash undergrowth in shifting cultivation
lemukjan	a type of palm with multiple usages (*Salacca* sp.)
lepo via	temporary camp occupied for one to two days after moving away from a death site
lengakja	a type of edible fruit
langau	elevated platform in the *lapo bono* lean-to shelter
lengunang	spirit realm of the sea
letapak	a fish (*Gastromyzon borneensis*)
leverap	a fish (*Puntius bramoides*; *Puntius bulu*)
leyan	to borrow (verb)
leyeb languk	roof beam
li	a fish (*Protomyzon borneensis*; *Protomyzon whiteheadi*)
liang	large deep river bays
ligang	light as in weight
likiyan	omen bat
likun avun	spirit realm in the sky inhabited by the *otu tulik*
lili	base of a blowpipe dart
lilit	aerial tree root
lilit okar	umbilical cord wrapped round the body of the new born baby
limo	lime; the number five
limo ayok tup	pomelos (*Citrus grandis*)
limo kanying	oranges (*Citrus reticulata* Blanco; *Citrus sinensis*)
limo mohom	limes (*Citrus aurantifolia*)
linau	human being
lingit	a) neighbor b) stand sideway
lingoh	type of tree that produces the best firewood
linut	sago paste
lipan	Iban, *lipan,* tractor
lirap	type of tree used for firewood
liring	wall of a house
lirong	huge river bay
lisi	type of palm with very little starch
litang	tired; exhausted
litok	a type of tree used for firewood
living	the *Pinanga mirabilis* palm with board leaves
logak	tuber of a palm only eaten by wild boar in times of food scarcity
lokok	tobacco
lokong	"crane" brand tobacco
lolong	feast celebrated during period of food abundance
lolong ook	festival celebrated during arrival of wild boar migration season
long	tuber of a palm only eaten by wild boar in times of food scarcity, its leaf is used in rituals to ward off malevolent spirits
longan	heart; feeling
longotu	a prolonged period of rainfall, resulting from the first conduct of any activity that had once been carried out with the dead person during his lifetime
lorong	invisible spirits inhabiting the highest part of the heavens

Appendix 1: Glossary

Punan Vuhang	English; Vernacular; Scientific Names
lotik	Malay, *roti,* dry biscuit
lovangoh irab	the swollen chin of male boar during mating season
lowar	a type of honey bee (*Apis florae*)
luan	a type of root eaten by the *otu belahut* and *otu kunyuling* spirits
luang	stomach
luang tutu	the long straight stretch of a river
lubuhok	a type of spirit inhabiting the realm of the sea
lubunyun	type of tree that produces good firewood
lubuyun ciap I lubuyun singot	type of tree which young trunks are used to make torch for sweeping bees from their beehives
luek	rest
lug	sago starch
luguk	brother-in-law
luhieng	dried pig fat; a delicacy
lujuk	a) send; deliver b) a tree, its broad leaves are used to prevent fibrous pulp from dropping and touching the ground during the sago mashing process
lukjung	end, as in the last part of something
lukukun	a) white-crested (white-crowned) Hornbill (*Berenicornis comatus*) b) a type of fruit, its flowering indicates occurrence of the major fruit season c) a tree that produces good firewood
lukut	valuable beads
lulu	Kayan, *lulu*, straight stretch of river
lumak	easy, as in not difficult
lumuluk	to search for game
lumut	moss; object hurled by the dwarf spirit to hurt children
lungan	a type of big fish (*Hampala macrolepdidota*)
lunuk	fig (*ficus spp.*)
lupoh	rinsing sago fibers with starch solution
luru	thunder
luru palati	flashing lightning
lutuk	bottom, buttock
luvang	hole
luvang laut	underground nest of mammals
luvang malam	a deep hole to imprison malevolent spirits captured during *nalau* ritual
luvang manok	underground nest of birds
luyan	durian fruit (*Durio zibethinus* Murr.)
luyuk	spawning of fish
M	
magahan	extreme; 'too much!'
magom	hold, like grasp
mahak	a) a type of edible fruit b) to sharpen a knife
mahap	a) mashing sago pith into fibrous pulp for filtering b) Kayan, *mahap,* corvée labor system practiced by Kayan
maheh	banded langurs (*Presbytis melalophos*)
mahik	sympathy; to like
mak	father
mak mek	uncle
makah	to chase a wild boar
mahak	a type of edible fruit
makeh	cross a slope to bypass a long stretch of river bend
makit	scoop water
makjom	put out fire
malam	night
malat bukal	ornamental knife with decorated sheath
malin	loss
mamek	giant squirrel (*Ratufa affinis*)
man	father
manan-manan	any kind, as in any kind of food (*angkun manan-manan*)

Appendix 1: Glossary

Punan Vuhang	English; Vernacular; Scientific Names
manator	a large tree with fruit consumed by wild boar (*Shorea spp.*; *Anisoptera spp.*); its wood is used to make columns and planks
mangahin	remove meat from bone (lower leg) and skull
mangari	a very hard wood (*Kompassia malaccensis*)
mangin	dogs chasing a wild boar
manok	a) bird b) a type of hardwood tree suitable for construction
manok kuan / manok otu	Rhinoceros Hornbill (*Buceros rhinoceros borneansis*)
mapet	to chop (verb)
maram	rotten
maren	Kayan, *maren,* aristocrat
marun	descend
masap	cut away dead frond from sago trunk
matan	eye; sun; noose (trap)
maton	swollen
matuk	bite; murky water
mavu	deaf
mee	Malay / Kayan, *mee,* noodle
mek aran bikop	name giving ceremony for a baby
mek singot	to harvest honey
meligoh	very fast
mepet	lopping off protruding branches before burning
meruka	Gurkha soldiers during the Indonesian-Malaysian Confrontation
mesek'en	fierce
minek	aunt
minit	minute (English, 'minute')
minun	seeing through the little space in between leaves during hunting
minyak	Malay, *minyak,* oil
mirat	tear
misan	stay overnight
misan lug	overnight sago camp
misep	selfish
mitu	to catch the *itu* fish (*Nemachilus olivaceus*; *Elxis sabanus)*
modung	papaya (*Carica papaya*)
mohi	to fish with line and hook
mohoi	to approach, come near
mojob	hungry
mojuk	far
mok	filtering process of sago starch; trample and thrash mashed sago
molang	a type of edible fruit
mon	first, as in 'you go first'
mongo	real, correct
monyo	imitating the call of birds to draw them within blowpipe shooting distance
morip	live, alive
motet	to fell tree
mu'jun	a type of tree used for firewood
muhuat	massage; rub the body
mukgak	dogs chasing small "useless" animals
mulet	to return
mulong	an omen
munguhut	shaving a piece of wood for burning
mungulung	a taboo bird; trogon
munim	a kind of civet that can be hunted for food; an omen animal pertaining to warfare
mupit	to shoot with blowpipe
murik	a) cook; boil b) toward upriver
musing	rat
mut	call as in calling somebody (verb)
mutu	cut; sever
muvung	roof
muvut	to leave a camp site or an area in order to move to another
muxit	exit, to leave a house; to emerge as in rising sun
muxit barak	flower blooming

Appendix 1: Glossary

Punan Vuhang	English; Vernacular; Scientific Names
N	
nabur	Kayan, *nabur*, weeding in shifting cultivation
nagak	to hunt with dogs
nak	child, children
nakayok-nakayok	molding sago starch into a bigger dough
nakarong	ascend, as to climb up
naken	nephew
nalau	healing ceremony performed by shaman
nam	6
napalu	to spear game
nasok	try
natek	hit; beat
natong	flat rivers with hard beds located immediately above big and high waterfalls
navan basak	process sago on the day of departure from a camp
nek	because (cause of)
nga'joh	don't have
ngait	using a hook
ngajel	traditional dance
ngakat	raise (get up)
ngalasik	to look after a seedling that naturally sprouted
ngalong	to notch tree trunk
nganak	to give birth (verb)
ngaput	close-up a hole; block a stream as in *ngaput lanum*
ngarang	temporary gathering of bands during fruit seasons
ngasuk	Kayan, *ngasuk,* hunting with dogs
ngavoh	kill
ngebarak	flowering (season)
ngehet	to scrap
ngelela	to look for food
ngemulang	to use the *kumulang* ritual leaves to ward off evil spirits
ngepua	to use a burning torch to sweep bees away from beehive
ngiting	a) to tie small pieces of wood to form a river obstacle b) twigs set around the *tagalong* trap to resemble a nest
nguin	head of a fish tilting downwards
ngun	a type of fish (*Rasbora rutteni*; *Schismatorhynchus heterorhynchus*)
ni	here; like that
niut	right on target during spearing or blowpipe hunting
no	the *Licuala orbicularis* palm with board leaves
nok hun sun	instant death to game
nokjou	to spear or hurl a spear from a distance
nu?	what?
nuan	noun, place
nukuvok	to cross (verb)
nulip	to fly (verb)
nugan	Kayan, *nugan,* to dibble or sow rice seeds
nuluvei	to mold, press and round sago starch into small balls of dough
nupi	shaman; dream
nupok	to pound rice
nutong	to make a fire to burn a farm
nutuk	Kayan, *nutuk,* to lop branches
nutak	to vomit (verb)
nyahang	the color yellow
nyahun	grandchild, also used as an address term
nyak	a layer of fat on a wild boar
nyalakoh	trick; deceptive scheming
nyalapen	lightning/thunderstorm
nyamakoh	sago (*arenga sp.*)
nyamu	fiber used to start a fire
nyangen	singing; the ritual involving singing spirit songs by the shaman
nyapalut	wood that is difficult to split

Appendix 1: Glossary

Punan Vuhang	English; Vernacular; Scientific Names
nyat	slope; ridge
nyatong	Kayan, to swim (verb)
nyau	the predator bird, eagle
nyauo	yes; available
nyegehok	a) become familiar with someone b) diligently hunting all kinds of small animals
nyeliou	to walk on the side of a slope, at the same elevation (see Figure 4)
nyelupoh	disbelief; disobey; disrespect
nyemuwak	trailing monkeys in blowpipe hunting
nyikot	to sew
nyikow	to steal
nyioh	coconut
nyium	don't
nyohut	a type of tree used for firewood
nyokat	a tree, its bark used to make a back strap
nyokonu	to think (verb)
nyo'on	accuse
nyovu	traveling towards downriver
nyupopok	blowing into the palm to make the "popok popok" sound
nyiur	coconuts (*Cocos nucifera* L.)
nyumuwak	sighting animal foot prints
nyuvulu	a type if tree that is suitable for house construction
O	
oan	wife
ogak	ladder
ohuk	A-shaped part of chest
ok	me; the positive reply 'yes'
oii	shoulder strap
o'it	a type of edible fruit
okar	root; vine
okar kalei	a tuber eaten by wild boar
okar lunuk	fig vine
okgong	wood submerged underwater that can be used as firewood when dry
okjob	hungry
oku lanye	literally, bury lard kept inside containers in the banks of small tributaries
opai	a type of edible fruit
orak	a) a type of firewood which dries very fast, usually used during honey collecting b) its broad leaves are used to prevent fibrous pulp from dropping and touching the ground during the sago mashing process
oram batang	pieces of heavy wood on top of leaves to keep thatch from being blown away by strong winds
orip	pet
oriu	a type of edible fruit
oroh	woman; girl; female
oroh balu	malevolent widow spirit
otet	foot, feet
otu	spirit; ghosts
otu behok	augural spirits
otu belahut	the spirit inhabiting the *belahut* spirit realm below the earth
otu dogkek	dwarf - sometimes a malevolent spirit
otu kunyuling	the spirit inhabiting the *kunyuling* spirit realm below the earth
otu laput lanum	spirits inhabiting the spirit realm of the river mouths
otu tanok	dwarf spirits living inside big rocks or boulders found in the mountains
otu tulik	the best known spirits in the Punan Vuhang cosmos; found in the realm of the heavens (*likun avun*), rising sun (*muxit matan lau*) and mountains (*bululuk*)
otu pahkavoh	killing spirits
o'un	middle
ovan	noun, wound
oven	waterfall
ovet	noose trap

Appendix 1: Glossary

Punan Vuhang	English; Vernacular; Scientific Names
ovi	knife (referring to the bush knife, against *yu* for the small blade)
ovow	a) long as in measurement b) go away c) traditional fish trap
ovow civu	fish trap set at a small river during high water
ovow luyuk	fish spawning trap
ovow malam	fish trap set at night time
ovow tutu	fish trap set in a big river during high water
P	
paean bulu	bamboo bats
pahkavoh	noun, kill (see verb, *ngavoh*)
pakak	column or post of a shelter
pakgoh	dart equipped with a metal tip used for killing big game and enemies
paklug	to check the content of sago starch
paknak	kindred
paknyat	mountain range
paknyot	adultery
pakri lipoh	second cousin
paku	fern
palajeu	a type of tree growing along the river bank
palang	a) penis pin b) a device in the noose trap (see Figures 13 and 14)
palaput	confluence of a side stream with a main river
palaput bongok	a stream or river that branches to form two equal sized streams
palati	thunder
palet	portion / section of sago trunk
pali	taboo
palik	taboo, alternative pronunciation
palit	victim of taboo
palu	hammer for mashing sago
pamit	to pull (verb)
pan	hind quarter thigh of an animal
pangin	a type of edible fruit; mango (*Mangifera pajang* Kost)
pangok	the waiting period for an animal to die from blowpipe poison
panyin	a) Kayan, *panyin*, commoner b) a group of animal
papangab	mating for wild boar
paran	bat
paroh	to be in pain; sick
paroh utok	headache
pasarip	to be extra careful when hunting animal
patar	a type of fruit (*Parkia speciosa*)
patasang	fight; a term use to refer to fighting between monkeys
patik	a type of tree used for firewood
patup	muddy water
patup bua'	fruit buds
pau	an edible insect attracted to fire during the night
paung	hunting dogs surrounding a wild boar
payau	sambar deer (*Cervus unicolor*)
pee-it	an omen bird
peja'ak	a hardwood used for firewood
pelanuk	mousedeer (*Tragulus javanicus*; *Tragulus napu*)
pelar	peace ceremony
pelayan	Christian deacon
pelekoh	to throw (as in throwing a spear)
peluru	a steeply descending stretch of river where the water flows smoothly over the river bed
Pendeta	Christian missionary
pengatang	beams supporting the *takgung* sago filtering platform
pengivu	a container for scooping water used in sago filtering
petitik	to splash water
peyak	sago fiber obtained by mashing sago pith
pikgok	staying awake throughout the night
piksat	divide (as divide into parts)

Appendix 1: Glossary

Punan Vuhang	English; Vernacular; Scientific Names
piksat lapo	a married couple setting up their own household, literal meaning 'divide a house'
pinak	when
pingitan	a) noose trap string b) vine for sewing a cut on a carcass
pingu	to accompany friends; to court
pipik kayu	firewood kindling
pipoh	shaking a bundle of burning kindling to distract the bees from attacking climbers during honey collecting
pohi mamit	to fish using line and hook
pok'an	a component of sago filtering platform
pokolong	to repeat (chant in the context of a ritual)
polongan	same feeling; same heart
pon	the forearm; upper limb of front quarter of an animal
po'ngehok	lowering of river level
popoya	to mate (wild boar)
portunuk	to curse
puhuk	ancestry; pedigree
puhuk pui	fireplace
pui	fire
pui sirong	fire thrown to the spirit of the dead at the end of mourning
pujuak	searching for fruits so that hunting can be directed towards where animals are eating fruit
puknyik	to whisper (verb)
puklik-ulik	to return to camp on the same day from hunting and/or gathering
puklung	the long 'cooing' call that greets the hunter returning with a wild boar
pukulap	to teach (verb)
pukulap nuo	reciting and teaching somebody access routes to a distant area
pukulim	to hide (verb)
pukulim puknyik	whisper secretly
pulo	10
pulu-pulu	tens of tens
pulujuk	to send belongings ahead to a new camp before the day of moving
puluvit	to roll (verb)
pun berkatih	stretch of ascending slope
pun busui	patron spirit of shaman
pun kayu	a huge tree with large buttress roots
pun nyat	higher part of a slope that converges with a ridge or a range
pun sap nyat bongok	the higher parts of the range
punguhut	shavings of dry wood used to start a fire
punuk	a type of edible fruit
pupak	platform of a shelter made from tree bark
purip	life
pusong	a type of edible fruit
putdong	huge log of firewood for continuous burning
puti	banana (*Musa sapientum* L.)
putom	everybody
putuhok	meeting, a gathering of people
putulat	to divide; share
puyat	to play (verb), games
S	
S. I. B	*Sidang Injil Borneo*; Borneo Evangelical Church
sa'ai	frog
sagek	waist
sai	python (*Python reticulatus*)
salah	nest
samak pok'an	layer of leaves at the bottom of a sago filtering platform
samak takgung	layer of broad leaves on a *takgung* platform
san	a type of lean used for ritual
sangen	singing
sanik	happy; glad

Appendix 1: Glossary

Punan Vuhang	English; Vernacular; Scientific Names
sanok	the sago processing stage when the starch solution settled
sapah	to cut meat for distribution during sharing
sape	stringed musical instrument
sarap	to run away, or flee, until nightfall, without eating food
sarit	type of firewood which dries very fast, usually used during honey collecting
satung	stringed bamboo musical instrument
sauk	tomorrow
savut	an omen bird, Brahminy Kite (*Haliastur indus intermedius*)
seketok	A line and bait fishing method using a small vine inserted through several earthworms. When the fish bits the earthworm, it sinks its teeth into the vine. When the person yanks up the rod, the fish remains biting the worm and the vine.
selangap	fish-spear/harpoon
selangap bengo	fish-spear carved from the sago trunk shell
selangap titei	iron harpoon
selatok	singing during honey collecting as encouragement to the men up in the tree
seliat	illness caused by spirits
seluan	a type of fish, eaten by the dwarf spirit
servireh	see *adet servireh*
servilak	blood-pact; swearing ceremony; blood-brother
siau	salt
sidah	Kayan, *sidah,* to wait by a river bank for migrating wild boar to cross a river spot
sik	snail
sikot	binding that stitches the cutting on wild boar
silat	a broad palm leaf for thatching roof (*Licuala valida* Becc.)
silat koyan	the *Johannestysmannia* palm with broad leaves
silit	ritual severing malevolent spirit's effect from the victim
singot	honey bee (*Apis dorsata)*
sirau	a type of tree used to construct boat
so'ak	interfluves, the stretch of higher lands separating one valley from the next
so'ar	longhouse corridor
sok	at (location)
suket	spirits inhabiting the heavenly realm; story about *suket*
sumin	the *sumin* rattan with fine vines
sung	the vulnerable front point of an animal's body
suqu'ak	to take turns
T	
tabalak	type of fruit; durian (*Durio kutejensis*)
tabat	medicine
tabin	buttock protector made from deer hide
tabu	sugarcane (*Saccharum officinarum* L.)
tagagau	the Ganua palm with broad leaves
tain	intestine
tain titei	rusty metal
tajuk	sago (*Eugeissona utilis* Becc.)
takang	part of head above the jaw
takgeh	blowpipe dart
takgung	small platform on top of the sago filtering platform frame, where the rinsing of sago starch is done
takjem	blowpipe poison (*Antiaris toxicaria*)
takjem tipluk	see *tipluk*

Appendix 1: Glossary

Punan Vuhang	English; Vernacular; Scientific Names
takjem uhu	a type of blowpipe poison handed down over several generations
takul	wild boar escaping from hunting dogs
talabangat / talajantan	sparkling and bright
talanak	landscape features used as reference points
talang	sago (*Arenga*) (Kayan, *talang*)
tali	string; squirrel (*Callosciusrus spp*)
tali tin	a string tied above the ankle on the right foot to prevent the spirit of a dead child from causing the death of another child
talo	3
talong	a type of edible fruit favored by pregnant women
talun	Kayan, *talun,* secondary forest
tamaru	rhinoceros (*Dicerorhinus sumatrensis)*
tanok	a) soil; land b) a type of hardwood tree suitable for construction
tanok apau	infertile land with exposed roots on ground surface
tanok bajik	'cool soil' - flat land with a stream meandering across it that irrigates the soil (from *bajik*; cool)
tanok batu	rocky surfaces
tanok pulo	a ritual to neutralize the effects of augury spirits that prevented leaving from a campsite
tanok terkaket	very steep slope
tanguh	a type of fish (*Tor douronensis*)
tasak	a type of root eaten by *otu kunyuling* spirit
tanyit	huge tree with bee-hives; a shorter variety is used for making blowpipes
tapah	rare; few
tapui	a person who is highly successful in hunting or collecting
taret	a type of fruit eaten by wild boar
tarok	neck
tasapan	salt-lick
tason	type of fruit much favored by wild boar, when eaten boars become very fat (*Cotylelobium spp.*; *Anisoptera kostermans*)
tatang	rock bar along the river bank
tatang babang	tuber of a palm only eaten by wild boar in times of food scarcity
tatap'up	the Ganua palm with broad leaves
tatuk	fire stand; hearth
tau'	right-hand as opposed to left-hand
tavat	talk
tavat nyat sanik	joking and cheerful conservation
tavun	a general phrase for all kinds of snake
tawak	Kayan, *tawak,* the brassware that fetches very high price
tavung	neck portion of a wild boar
tebulu	type of fruit (*Litsea garciae* Vidal); its wood is used to make house post
teggelam kavok	a type of hardwood tree used to make house post
tekurang	a unknown type of animal, its bone used as fish hook
tela'u	barking deer (*Muntiacus muntjac*; *Muntiacus atherodes*)
telajan	an omen bird (*Platylophus galericulatus coronatus*)
telo	3
temahah	strong small tree, trunk used for spring pole in a noose trap, and boat pole (*Eugenia* sp.)
temanyit	adult male wild boar
temuai	visitors, usually from a longhouse (Iban, *temuai*, 'stranger,' 'visitor')
terbulu	a type of edible fruit
terjaku	helmeted hornbill (*Rhinoplax vigil*)
terkakjeh	'kicked apart,' the result of which is death due to *adet servireh*

Appendix 1: Glossary

Punan Vuhang	English; Vernacular; Scientific Names
terkalet	a chestnut tree, a type of fruit eaten by wild boar
terkukup	upside down; baby born breech delivered
terloa	too much
ternongob	head of a fish tilted downwards
terpakgau	monkey being cautious of predators, wary
tesing lau	evening period of the day
tet	towards, as in *tet lalat* towards downstream
tet ahu	to hunt with dogs
tikgob	knowing
tilong	store; house
tinu koh	presence of a white tinge on a knife blade indicating a sufficient amount of starch in the sago palm
tipluk	a very powerful blowpipe poison, lit., 'cut the throat'
tiring busui	patron-spirit's house serving as congregation of *otu tulik* for the performance of *nyangen* ritual
tising	final stage of sago processing, draining water from the settled starch
titei	iron
titing	fence; line of obstacles camouflaging a noose trap
tiu	again
tobo	a type of edible fruit
tokek	leader
tokek lapo	headman
tokik	metal or lighter for lighting fire
tokong	a community
tokut	spear shaft; turn over as in rotating sago pulp during the filtering process
tolang	divorce or temporary separation
tolang puklik	temporary separation after which the spouses reunite
tolang paknyot	separation due to a proven allegation of adultery
tolang kak ciu	during a period of separation, one of the spouses marries another partner, literal meaning - permanent separation
tolo	trunk notched into portions
tone	over ripe fruits that drop to the ground
totung	porcupine
totung kelien	porcupine (*Thecurus crassispinis)*
totung mucit	porcupine (*Hystrix brachyura*)
tovih	together; with
tuan	Malay / Kayan, *tuan*, white man; Caucasian
tubo	fish poison (*Linostoma pauciflorum* Griff.; *Diospyros piscicapa* Ridl.)
tubo kaling	*Croton tiglium* L. fish poison
tubo okar	*Derris elliptica* Benth. fish poison
tubo pari	*Derris spp* fish poison
tubu	to plant
tuei	to come
tujuk	to point
tukang	stomach
tukap	chip, notch
tuket	a) behavior; attitude b) a plant found in mountainous area, its broad leaves are used to prevent fibrous pulp from dropping and touching the ground during the sago mashing process
tukgah berkatih	descending part of a slope, in relation to the river, sloping down to the river
tukjuk	7
tulah	supernatural consequence due to a prohibited act
tulat	divide; sharing
tulik sangen	*otu tulik* spirit who teaches songs to an apprentice shaman
tulong	Malay, *tulong,* help
tun lanum	malevolent spirit that swims in the middle depth of the river
tup	the whole carcass of a game

Appendix 1: Glossary

Punan Vuhang	English; Vernacular; Scientific Names
tup paknyat	mountain range
tup tanok	peak of a hill or mountain
tupat	groove; entire length of hard sago pith hacked into a straight groove
tupuit	straight
tunyui	meandering part of a river
tupob	type of civet
tupok	pounding paddy
tupunying	to tip-toe
tusungoh	a civet, yellow-throated marten (*Martes flavigula)*
tuvak	to go downstream
U	
ucuk	spear
uhuk	See Figure 11: a) sago filtering platform b) pool of water upstream of the filtering platform c) pool of water accumulating inside the filtering platform d) piece of cloth in the sago filtering platform
ukik	treeshrews (*Tupaia spp*)
ulik	to return
ulun	a) enemy captured in warfare and turned into slave b) forequarter of a mousedeer carcass
uma	Kayan, *uma,* house
upak	bubble
upit	blowpipe
urak	piglet
usam	wild animals becoming highly alerted towards hunters
uteng	penis pin
utok	head
uvow	to run (verb)
uwei gak / uwei mongo	the high quality *Calamus caesius* rattan used to produce baskets with woven design and fine mats
uwei janan	type of large rattan cane (*Retispatha dumetosa* Dransf.)
V	
vaan	Kayan, *vaan*, cultivated vegetable
vak	head downriver, come back
vireh	a plant used to make floor
visi	a part, or a portion of an item
vuhang	island
vulei	left-hand side
Y	
yek	elder brother/sister
yiang	malevolent spirit in the form of an animal such as a wild-buffalo, deer, or barking deer inhabiting the spirit realm of large deep river bays
yu	small knife
yun	to carry something heavy on the shoulder
yut	basket used for filtering sago starch

Appendix 2: Genealogy of Thirteen Kin Groups

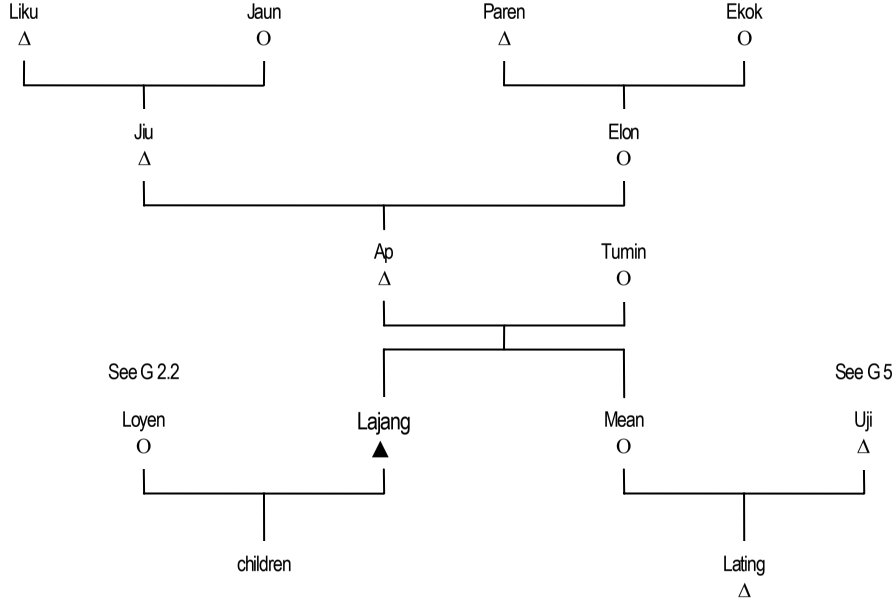
The genealogies below belong to thirteen kin groups. Every person in the community can trace his or her genealogy to at least one of these kin groups. Luhat Tehin, the oldest living individual in the community is my primary informant on the names of the ancestors. Most people do not know the names of their ancestors beyond the third generation because before the community became Christian in the early 1970s, it was forbidden to mention the names of the dead, except during the name-giving ceremony (see Chapter Eight). We hope that these genealogies may be used by Punan Vuhang to choose names for their children.

These genealogies reflect the bilateral nature of Punan Vuhang kinship in which kinship ties are traced equally through both the father and the mother. As for Langin Nguwei (13), because his father, Nguwei, was originally a Punan Kihan from Kalimantan, Luhat does not know the name of his ancestors.

Table 22: Order of Ego's Genealogy according to Household Residence

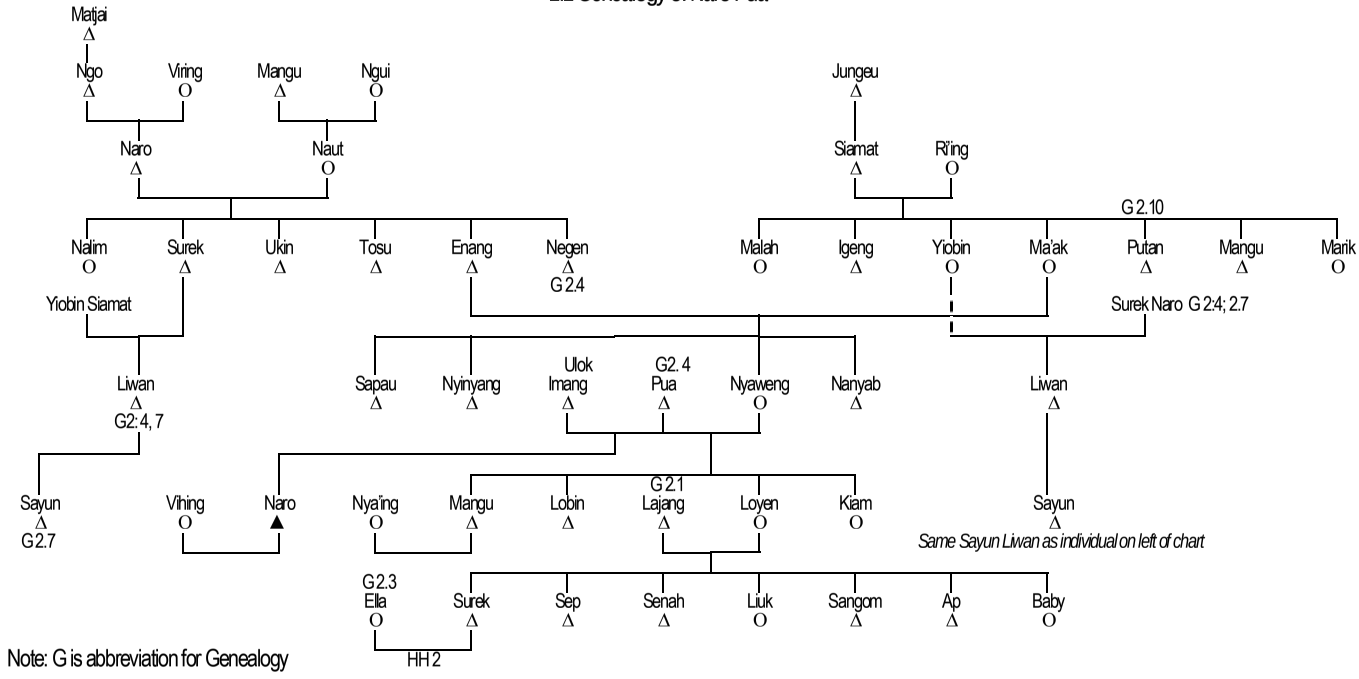
Genealogy No.	Name of Ego	Household Number
2.1	Lajang Ap	1
2.2	Naro Pua	3
2.3	Milang Ruyong	3
2.4	Nigau Liwan	5
2.5	Naut Negen	6
2.6	Riyek Sion	6
2.7	Sayun Liwan	9
2.8	Bawek Sanei	11
2.9	Kilat Ngeting	12
2.10	Nguwek Putan	12
2.11	Tawing Agek	13
2.12	Luhat Tehin	15
2.13	Langin Nguwei	deceased in 1994

2.1 Genealogy of Lajang Ap



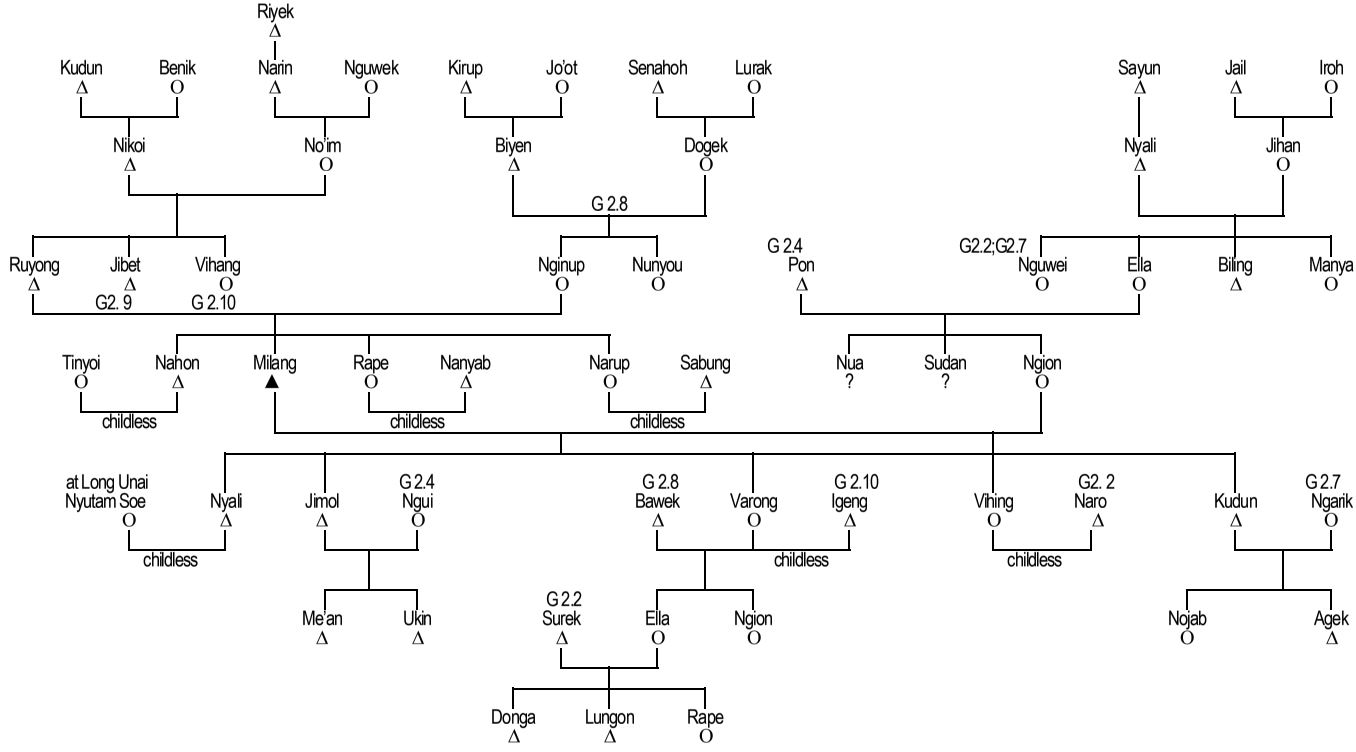
Note: G is abbreviation for Genealogy

2.2 Genealogy of Naro Pua

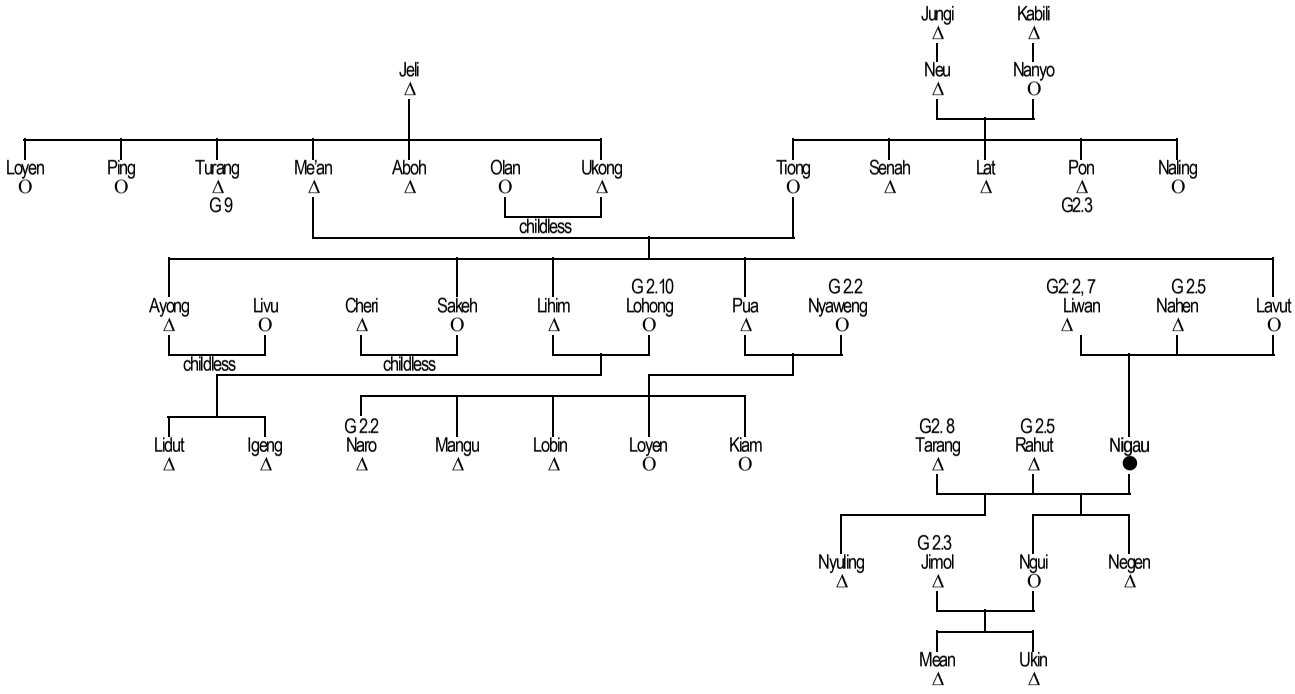


Note: G is abbreviation for Genealogy

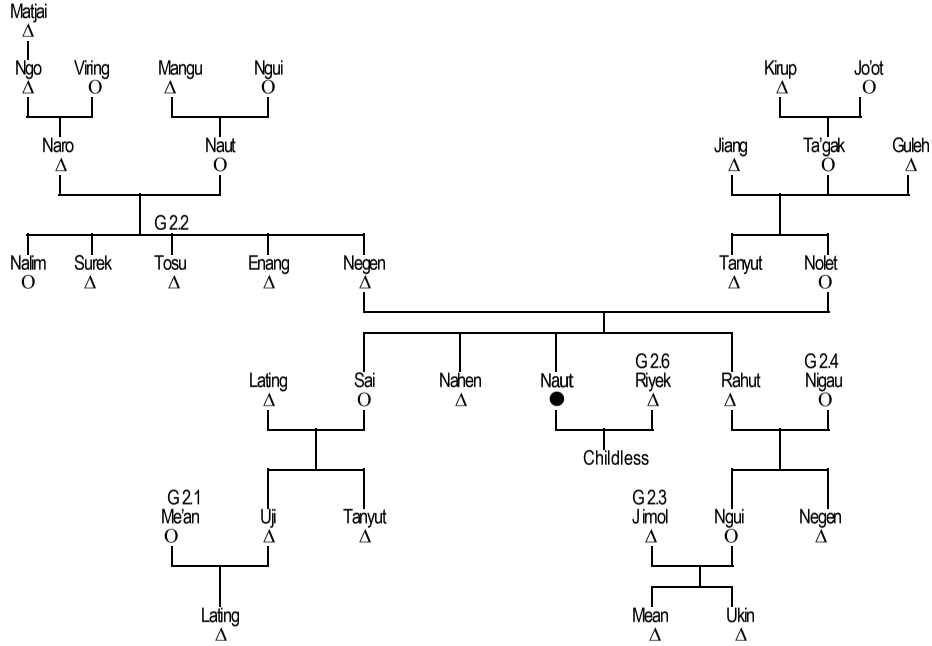
2.3 Genealogy of Milang Ruyong



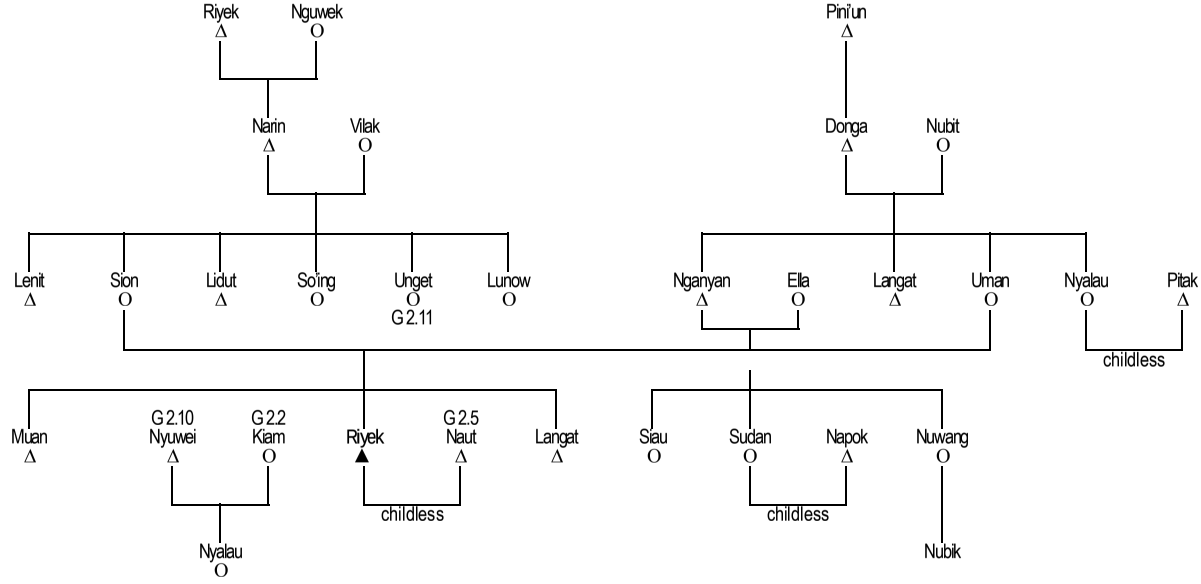
2.4 Genealogy of Nigau Liwan



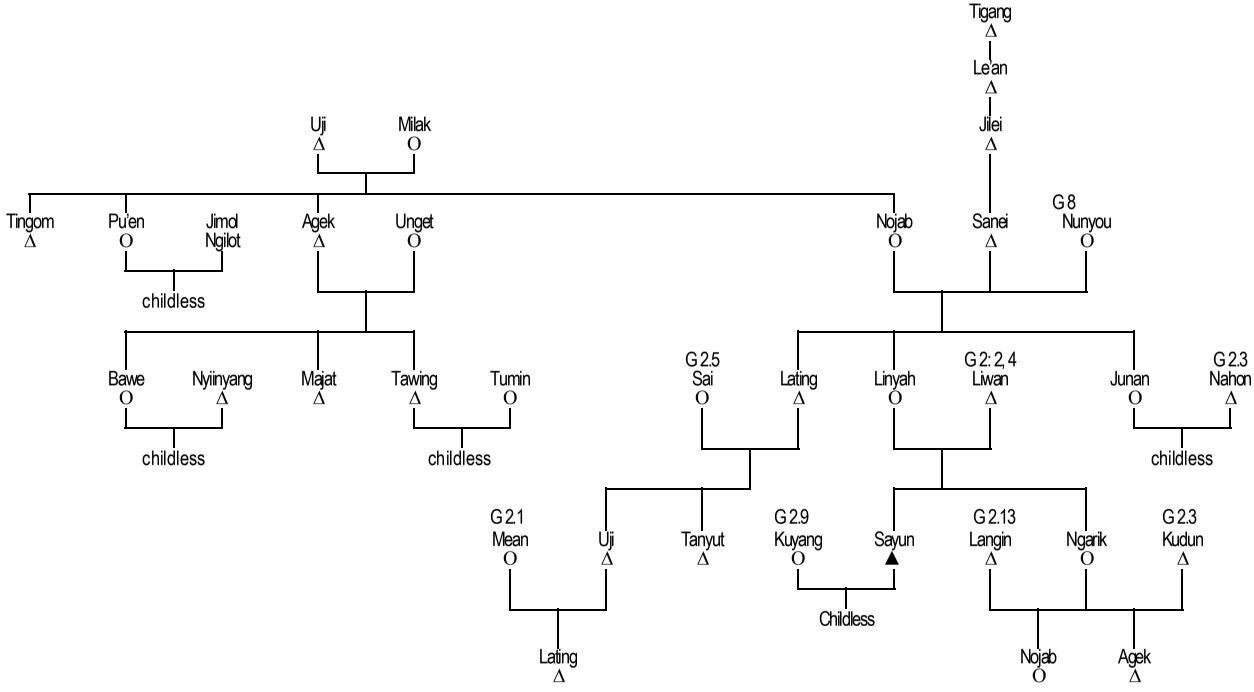
2.5 Genealogy of Naut Negen



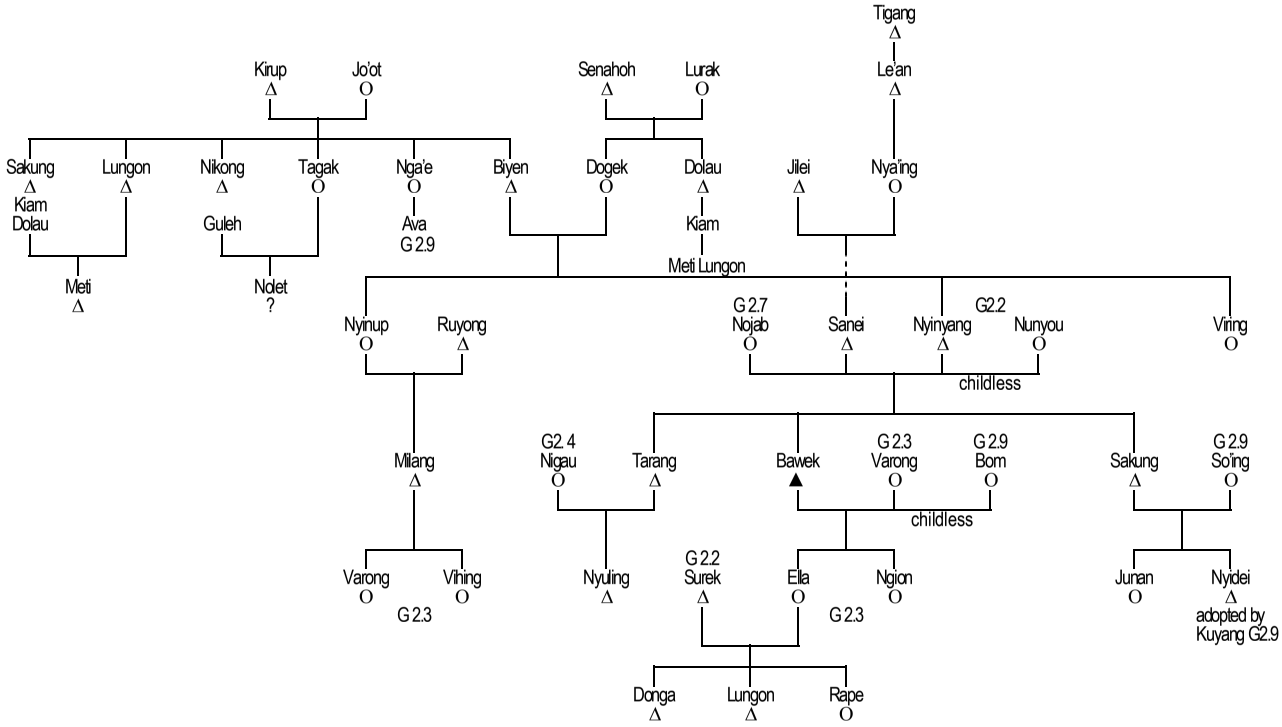
2.6 Genealogy of Riyek Sion



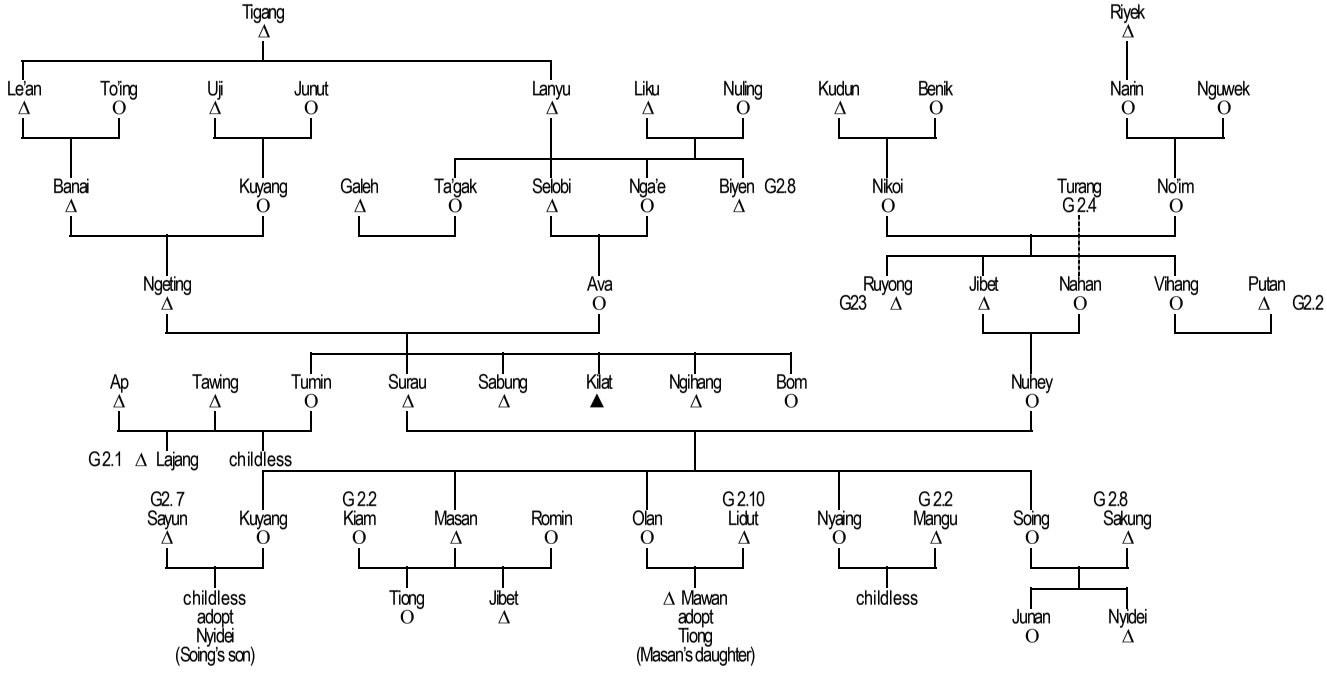
2.7 Genealogy of Sayun Liwan



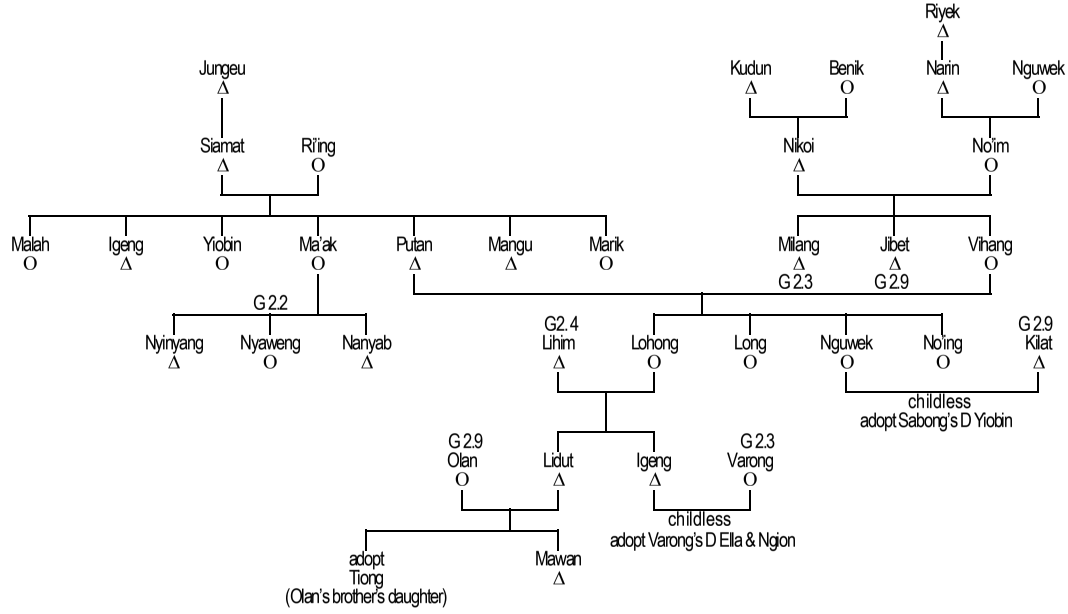
2.8 Genealogy of Bawek Sanei



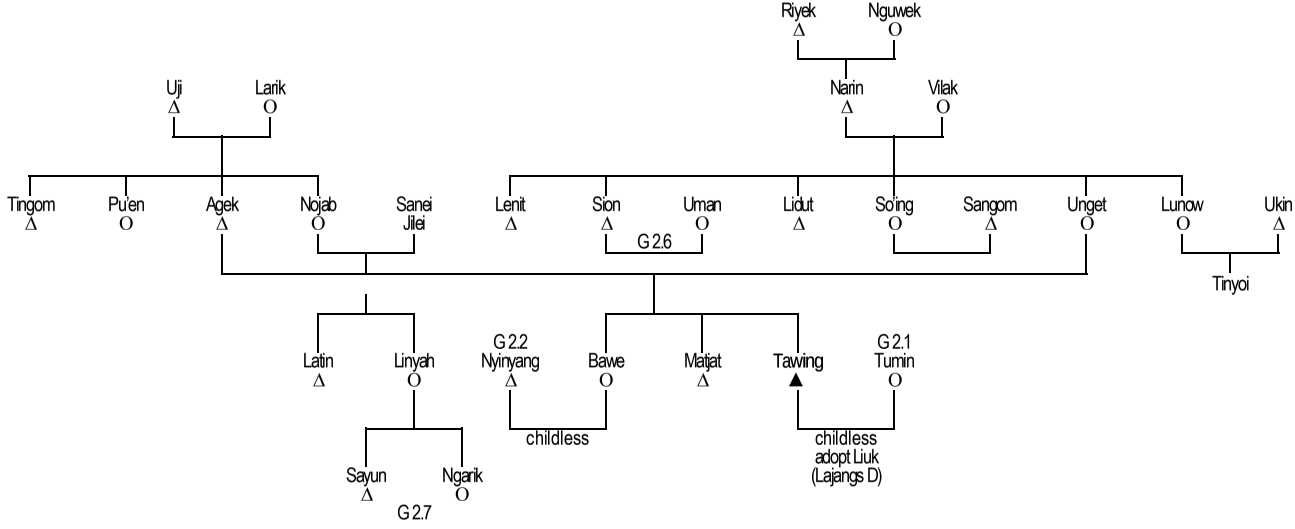
2.9 Genealogy of Kilat Ngeting



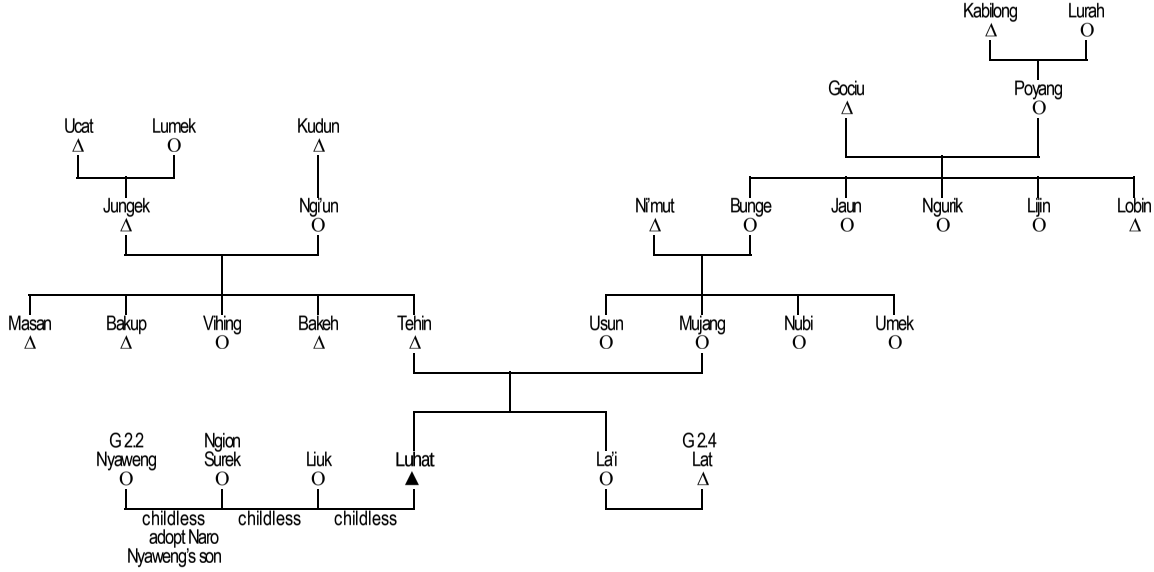
2.10 Genealogy of Nguwek Putan



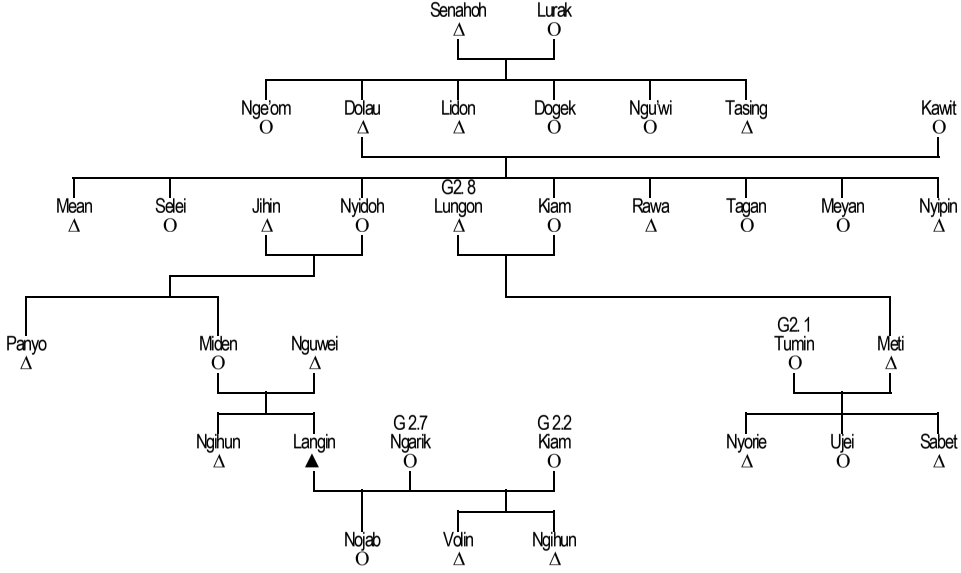
2.11 Genealogy of Tawing Agek



2.12 Genealogy of Luhat Tehin



2.13 Genealogy of Langin Nguwei



Appendix 3: A List of Some Plants used by the Punan Vuhang

Scientific Name	Punan Vuhang	Vernacular Name	Use
Acorus calamus L.	*sukot*	sweet flag	medicinal use[1]
Agathis borneensis Warburg	*tukuli*	a damar tree	the damar resin is valued for knife handles
Aglaia lancifolia	*asak*	a fruit growing on river-bank shrub	snack
Ananas comosus	*arok san*	pineapple	snack; cultivar
Anisoptera Grandiflora *	*manator; bua upak* -with fruit; *lanyu* - when young tree		fruit eaten by wild boar
A. grossivenia *	*tenak*		fruit eaten by wild boar
A. laevis *	*kavakub*		fruit eaten by wild boar
A. kostermans *	*tason*		fruit eaten by wild boar
*A. marginata NN153**	*laui*		fruit eaten by wild boar
*A. marginata S8038**	*balapi*		fruit eaten by wild boar
*A. marginata S7083**	*balapi*		fruit eaten by wild boar
*A. marginata S2718**	*tenak*		fruit eaten by wild boar
*A. marginata 9278**	*tenak*		fruit eaten by wild boar
*A. marginata 9290**	*manator*		fruit eaten by wild boar
*A. marginata 9772**	*manator*		fruit eaten by wild boar
*A. marginata 9773**	*lop*		fruit eaten by wild boar
*A. marginata 0463**	*lop*		fruit eaten by wild boar
*A. marginata 9827**	*lop*		fruit eaten by wild boar
*A. marginata S13992**	*tenak*		fruit eaten by wild boar
*A. marginata 189862**	*tanak*		fruit eaten by wild boar
*A. marginata 21177**	*laui*		fruit eaten by wild boar
A. marginata 22640*	*kavakob*		fruit eaten by wild boar
*A. marginata 15418**	*manator*		fruit eaten by wild boar
Antiaris toxicaria	*takjem pingitan*		blowpipe poison
Aquilaria malaccensis	*Garu' lala*	the fragrant *garu'* wood	the precious aloe wood; for trading
A. microcarpa	*Garu' lala*	the fragrant *garu'* wood	the precious aloe wood; for trading
Areca borneensis	*butek livang*		leaf for thatch roof
Arenga undulatifolia	*nyamakoh*		Starch as staple

[1] The reference of scientific names and utility is obtained from Chin 1985:254-281. From the Kenyah Lapo Tau names mentioned by Chin, informants identified and translated the plants into Punan Vuhang names. Several plants recorded by Chin, however, were not known to informants. Plants with asterisk * have been identified by two informants (Naro Pua and Uji Lating) at the Sarawak Herbarium of the Forest Department Research Center, Kuching. Due to lack of time and the large number of specimens, only plants in the Dipterocarpus family were identified. Even so, the identification was limited to the Dipterocarpus species.

Appendix 3: A List of Some Plants used by the Punan Vuhang

Scientific Name	Punan Vuhang	Vernacular Name	Use
Artocarpus elasticus Reinw.	*pa'ap*	a tree	latex as source of birdlime; bark as source of fiber cordage used for bark-cloth
Artocarpus heterophyllus Lam.	*bado'*	jackfruit	Snack
Artocarpus odoratissimus Bl.	*boa' torai*	a fruit	Snack
Athyrium asperum	*paku lalo*	a big fern	used for healing wound
Baccaurea lanceolata	*lapa'u*	a fruit	a sour snack
Baccaurea macrocarpa	*torai*	a fruit	Snack
Benincasa hispida	*tarak*	wax gourd	side-dish; cultivar
Calamus caesius Bl.	*uwei mongo*; *uwei gak*	rattan	the most valued rattan cane, about 0.8 cm in diameter, used for basketry, mat and fine binding
Calamus optimus Becc.	*uwei telong*	rattan	a fine cane of about 1.5 cm in diameter used for weaving.
Canarium odontophyllum Miq.	*lavai*	a fruit	Snack
Capsicum annuum L.	*liak*	chillies	to flavor food
Capsicum frutescens L.	*liak*	chillies	to flavor food
Carica papaya	*modung*	papaya	snack; cultivar
Castanopsis costata	*bongan*	chestnuts	Snack
Castanopsis motleyana King	*bongan*	chestnuts	Snack
Castanopsis sp.	*bongan*	chestnuts	Snack
Casuarina equisetifolia	*palu; balahak; soru*		for sago meshing pounder/ thrasher
Citrus aurantifolia	*limau mohom*	lime	snack; cultivar
Citrus grandis	*limau ayok tup*	pomelo	snack, cultivar
Citrus reticulata Blanco	*limau kanying*	mandarin	snack; cultivar
Citrus sinensis	*limau kanying*	sweet orange	snack; cultivar
Cocos nucifera L.	*nyuir*	coconut	snack; cultivar
Colocosia esculenta	*cukai*	taro; yam	staple; cultivar
*Cotylelobium lanceolatum 47031**	*tason lanum*		fruit eaten by wild boar
*C. lanceolatum 28068**	*tason*		fruit eaten by wild boar
C. melanoxylon 11855 *	*sulit*		fruit eaten by wild boar
*C. melanoxylon 7059 *	*balapi*		a very hard tree; fruit eaten by wild boar

Appendix 3: A List of Some Plants used by the Punan Vuhang

Scientific Name	Punan Vuhang	Vernacular Name	Use
*C. melanoxylon 9565 **	*sulit*		fruit eaten by wild boar
*C. melanoxylon 9592 **	*lamahon*		fruit eaten by wild boar
*C. melanoxylon 6317 **	*liti'an*		fruit eaten by wild boar
*C. melanoxylon 12743 **	*tikjai*		fruit eaten by wild boar
C. melanoxylon 1277 **	*tason lanum*		fruit eaten by wild boar
Cratoxylum arborescens	*irat*	a large tree	wood for planks and making knife sheath
Cratoxylum sumatranum	*irat*	a large tree	wood for planks and making knife sheath
Croton tiglium L.	*tubo kaling*	a *tubo* shrub	fruits crushed and used for fish poison
Cratoxylum arborescens	*irat*	a large tree	wood for planks and making knife sheath
Cratoxylum sumatranum	*irat*	a large tree	wood for planks and making knife sheath
Curculigo latifolia Dryand.	*selivui long*	a plant	leaf is used for rough bindings
Dacryodes rostrata	*kalamu*	an olive fruit	Fruit eaten as snack and sometimes as staple
Daemonorops pseudomirabilis Becc.	*uwei selingo*	Rattan	cane for binding and making large carrying basket (*kalong*)
Derris elliptica Benth.	*tubo okar*	the *tuva* liane	roots crushed and used as fish poison
Derris sp.	*tubo pari*	*tubo* plant	a species of *Derris* which root is used as fish poison.
Dimocarpus longan Lour.	*isau*	a longan-like fruit	Snack
Diospyros piscicapa Ridl.	*tubo paleng*	a *tubo* tree	fruits crushed and used for fish poison
*Dipterocarpus acutangulus F21367 **	*lop batu*		fruit eaten by wild boar
*D. acutangulus 24220 **	*lop mongo*		fruit eaten by wild boar
*D. acutangulus 24184 **	*arang ajan*		fruit eaten by wild boar
*D. applanatus **	*laui tanok*		fruit eaten but less keen by wild boar
*D. alatus **	*laui tanok*		fruit eaten by wild boar
*D. baudii 28008**	*laui mongo*		fruit eaten by wild boar
*D. borneensis 9767 **	*tupuruh*		fruit eaten by wild boar
*D. caudatus **	*lumuning*		fruit eaten by wild boar
*D. caudatus SSP penangi anus 25652 **	*tikjai*		fruit eaten by wild boar

Appendix 3: A List of Some Plants used by the Punan Vuhang

Scientific Name	Punan Vuhang	Vernacular Name	Use
D. caudiferus *	*laroh laui*		fruit eaten by wild boar
*D. caudiferus S. 646**	*laui*		fruit eaten by wild boar
*D. chartaceus 94871 **	*laui lanum*		fruit eaten by wild boar
*D. confertus 29475 **	*laui*		fruit eaten by wild boar
*D. confertus V. S113473**	*kihan*		fruit eaten by wild boar
*D. conformis SSP. Parvus Ashton 25654 **	*tenak*		fruit eaten by wild boar
*D. conformis V. S1 SSP. Borneensis Ashton 24240**	*tenak*		fruit eaten by wild boar
*D. conformis V. S1 SSP. Borneensis Ashton 3390 **	*kavakob*		fruit eaten by wild boar
D. oblongifolius Bl.	*kuhuwei*	a large tree that arches over the river	platform for fish harpooning
*D. coriacous V.S1 0410 **	*laui tanok*		fruit eaten by wild boar
Dryobalanops lanceolata Burck.	*tepuruh*	a large tree	for construction as planks and beams
Durio kutejensis	*tabalak*	a fruit commonly known as durian	snack; when abundant consumed as a staple
Durio zibethinus Murr.	*luyan*	fruit	much relished snack, staple food when abundant
Dyera costulata	*litok*	a large tree	Honeybee tree; tapped for latex
Eurycoma longifolia	*kayu tabat*		Medicinal plant
Eugeissonia utilis Becc.	*tajuk*	sago	heart as snack and side dish; starch as staple
Eugenia spp.	*temahah*	a slender understorey tree to 4 or 5 m tall	trunk used to pole boat
Fagraea racemosa Jack ex. Wall.	*lop batu*	a very hard wood	for making blowpipe
Ficus spp.	*lunuk*	fig	aseasonal fruits eaten by birds and primates
Goniothalamus dolichocarpus Merr.	*kubuwan*	a shrub	medicinal use
Ganua	*tagagau*		
Ganua	*kehep*		
Ganua	*tatap'up*		thatch roof
Hevea spp.	*kevitei*	gutta-percha tree	rubber hardened gutta-

Appendix 3: A List of Some Plants used by the Punan Vuhang

Scientific Name	Punan Vuhang	Vernacular Name	Use
			percha for hafting tools
Ipomoea batatas	*ubi okar*	sweet potato	staple; cultivar
Johannestysmannia	*silat koyan*		leaf for thatch roof
Koompassia malaccensis	*mangari*	a large tree	very hard wood; buttress wood is used for tool handles
Lagenaria siceraria	*tabik*	a gourd	side-dish; tools; cultivar
Lansium domesticum	*lasat*	a fruit	snack
Licuala orbicularis	*no*		leaf for thatch roof
Licuala valida Becc.	*silat*	a palm	leaf used for rood; heart consumed while hunter is hungry in the forest
Linostoma pauciflorum Griff.	*tubo iting*	a shrub	roots crushed and used as fish poison.
Litsea garciae Vidal	*tubulu*	a fruit	snack and staple
Macaranga sp.	*tugulung*	a fruit	snack
Mangifera pajang Kost.	*pangin*	a type of mango	snack
Manihot esculenta Crantz	*ubi*	tapioca	staple; cultivar
Momordica charantia L.	*peria'*	the "bitter gourd" vegetable	side-dish; cultivar
Monophyllara sp.	*tong garing*		medicinal plant
Musa sp.	*ukjuei*	a wild banana	
Musa sapientum L.	*puti*	banana	snack, staple; cultivar
Nephelium lappaceum L.	*buluti'*	rambutan	Snack
Nephelium mutabile Bl.	*a'bong*	a fruit that is bristly-hairy	Snack
Nephelium uncinatum Radlk	*a'bong*	a fruit that is bristly-hairy	Snack
Nephrolepsis biserrata	*paku pait*	a fern	Consumed only when lacking of other food because of its poor flavor
Nicotiana tabacum	*lukok*	tobacco	Addictive
Oncosperma horridum	*tasak*	a palm	heart a delicate snack
Parkia speciosa	*patar*	a tree	fruit eaten as side-dish; tree bark cut to emit smell to lure game into noose-trap
Palaquium gutta	*kevitei dian*	Gutta-percha	Latex used as sealant
Parashorea macrophlla Wyat-Smith	*lunuk (?)*	a forest tree	
Phacelophrynium	*laun itek*	a plant with very	for wrapping rice,

Appendix 3: A List of Some Plants used by the Punan Vuhang

Scientific Name	Punan Vuhang	Vernacular Name	Use
maximum		large leaf blades	tobacco, lining inside bamboo for storing pork lard; and roof.
Pinanga mirabilis	*livang*		leaf for thatch roof
Pithecellobium sp.	*ubow*	a tree	leaves mixed with fine river clay to blacken rattan strips by boiling
Pometia pinnata Forst.	*isau*	A longan-like fruit	snack
Pterospermum subpeltatum	*bayu*	a river bank tree	for boat construction; indication of fertile land
Retispatha dumetosa Dransf.	*uwei janan*	rattan	a large rattan cane used for handles of dibbles
Roucheria griffithiana Planch.	*okar kale*	a liane	the tough, woody stems are used to fashion parang handles
Saccharum officinarum L.	*tabu*	sugarcane	snack; cultivar
Salacca magnifila	*tungolun*		food consumed by humans
Salacca sp.	*lemukjan*	a palm	leaf rachis is slender but tough, used as a tool for honey collecting
Schizophyllum commune Fr.	*kulat*	mushroom	side dish
Schizostachyum sp.	*bulu latong*	a large bamboo	water container; for cooking *lolong ok*
Shorea sp.	*bua' avang*	illipe nut	a group of oil-bearing seeds; collected occasionally for trading; fruit consumed by wild boar;
S. argentifolia Sym.	*manator*	a large tree	for house and boat construction; fruit consumed by wild boar; a honeybee tree.
S. hemsleyana	*kavakob*		fruit consumed by wild boar
S. leprosula Miq.	*tenak*	a large tree	for house and boat construction
S. macrophylla	*laui*		fruit consumed by wild boar
S. splendita	*tason*		fruit during major fruit season; in a Punan Vuhang myth, only Kun

Appendix 3: A List of Some Plants used by the Punan Vuhang

Scientific Name	Punan Vuhang	Vernacular Name	Use
			Kakap could cause it to bear fruit
S. stenoptera	*lemahong*		fruit consumed by wild boar
Solanum torvum Sw.	*ulem*	a shrub	fruit eaten as snack
Stenochlaena palustris	*paku paya*	a climbing fern	side-dish
Solanum melongera L.	*terong*	egg-plant	side-dish; cultivar
Xanthophyllum cordatum Korth.	*lop batu*	a very hard wood	for making blowpipe
Willughbeia coriacea Wall.	*kata'u*	a fruit growing on a liane	Snack
Xanthosoma sagittifolium	*cukai*	taro; yam	staple; cultivar
Xerospermum sp.	*isau*	A longan-like fruit	Snack
Zea mays L.	*pare jale*	maize	staple food
Zingiber officinale Rosc.	*sukot*	a ginger	for medicinal use

Appendix 4: Terrestrial Animals

Scientific Name	Punan Vuhang Name	English
Hystrix brachyura	*totung mucit*	Common Porcupine
Trichys fasiculata	*teyan*	Long -Tailed Porcupine
Thecurus crassispinus	*totung kelien*	Thick-Spined Porcupine
Helarctos malayanus	*boep*	Sun Bear
Martes flavigula	*tusungoh*	Yellow-Throated Marten
Mustela nudipes	*sangangang*	Malay Weasel
Rheithrosciurus macrotis	*jamu*	Tufted Ground Squirrel
Lutra (Lutrogale) perspicillata	*langon beyan*	Smooth Otter
Aonyx (Amblonyx) cinerea	*langon bucang, langon boep*	Oriental Small-Clawed Otter
Viverra tanalunga	*besangit*	Malay Civet
Cynogale bennettii	*pukget*	Otter-Civet
Artictis binturong	*ketan*	Binturong or Bear Cat
Arctogalidia trivirgata	*munim*	Small-Toothed Palm Civet
Paguma larvata	*bucang*	Masked Palm Civet
Paradoxurus hermaphroditus	*bucang*	Common Palm Civet
Hemigalus hosei	*leheh*	Hose's Civet
Hemigalus derbyanus	*palong*	Banded Palm Civet
Prionodon linsang	*sengihat*	Banded Linsang
Herpestes semitorquatus	*tupob lanum*	Collared Mongoose
Herpestes brachyurus	*tupob mongo*	Short-Tailed Mongoose
Herpestes hosei	*tupob mongo*	Hose's Mongoose
Neofelis nebulosa	*kuli*	Clouded Leopard
Felis planiceps	*viat lanum (spirit)*	Flat Headed Cat
Felis badia	*viat lanum (spirit)*	Bay Cat
Sus barbatus barbatus	*bavui*	Bearded Pig
Tragulus javanicus	*pelanuk bicet*	Lesser Mouse-Deer
Tragulus napu	*pelanuk*	Greater Mouse-Deer
Muntiacus muntjak	*telau tanok*	Bornean Red Muntjac (Common Barking Deer)
Muntiacus atherodes	*telau lapei*	Bornean Yellow Muntjac
Cervus unicolor	*payau*	Sambar Deer
Dicerorhinus sumatrensis	*tamaru*	Asian Two-Horned or Sumatran Rhinoceros

Source: Identified by informants from Payne, Francis and Phillip, 1985

Appendix 5: Tree-dwelling Animals

Scientific Name	Punan Vuhang Name	English
Tupaia gracilis	*tikerek*	Slender Treeshrew
Tupaia minor	*tikerek*	Lesser Treeshrew
Tupaia minor	*manyik*	Common Treeshrew
Tupaia montana	*monyongun*	Mountain Treeshrew
Tupaia dorsalis	*monyongun (?)*	Striped Treeshrew
Dendrogale melanura	*monyongun (?)*	Smooth-Tailed Treeshrew
Cynopterus brachyotis	*paran mongo*	Short-Nosed Fruit Bat
Cynopterus horsfieldi	*paran mongo*	Horsfield's Fruit Bat
Cynopterus sphinx	*paran mongo*	Greater Short-Nosed Fruit Bat
Penthetor lucasii	*paran mongo*	Dusky Fruit Bat
Dyacopterus spadiceus	*paran mongo*	Dayak Fruit Bat
Rousettus amplexicaudatus	*paran mongo*	Geoffroy's Rousette
Rousettus spinalatus	*paran mongo*	Bare-Backed Rousette
Pteropus vampyrus	*mo'ak*	Large Flying Foxes
Cheiromeles torquatus	*paran nalau*	Naked Bat
Rhinolophus philippinensis	*paran barok*	Philippine Horseshoe Bats
Manis javanica	*buku*	Pangolin
Cynocephalus variegatus	*kabung palanok*	Colugo or Flying Lemur
Nycticebus coucang	*bekikei*	Slow Loris
Tarsius bancanus	*ikek*	Western Tarsier
Presbytis rubicunda	*kumom*	Red Leaf Monkey or Maroon Langur
Presbytis hosei	*bongat*	Grey Leaf Monkey or Hose's Langur
Presbytis frontata	*bui*	White-Fronted Langur
Presbytis cristata	*kucei*	Silvered Langur
Presbytis melalophos	*maheh*	Banded Langur
Nasalis larvatus	*mekah*	Proboscis Monkey (Very Rare)
Macaca fascicularis	*kuyat*	Long-Tailed or Crab-Eating Macaque
Macaca nemestrina	*barok*	Pig-Tailed Macaque
Hylobates muelleri	*kelavet mongo*	Bornean Gibbon
Pongo pygmaeus	*kuyui*	Orang Utan
Ratufa affinis cothurnata	*mamek*	Giant Squirrel
Callosciusrus baluensis	*tali mongo*	Kinabalu Squirrel
Callosciusrus prevostii pluto	*tali masak*	Prevost's Squirrel
Callosciusrus prevostii borneensis	*nak tali mongo (?)*	Prevost's Squirrel
Callosciusrus prevostii caroli	*tali bab*	Prevost's Squirrel
Callosciusrus prevostii sanggaus	*nak tali mongo (?)*	Prevost's Squirrel

Source: Identified by informants from Payne, Francis and Phillip, 1985

Appendix 5: Tree-dwelling Animals

Scientific Name	Punan Vuhang Name	English
Callosciusrus prevostii atricapillus	*tali mongo*	Prevost's Squirrel
Callosciurus orestes	*tali bab*	Bornean Black-Banded Squirrel
Callosciurus notatus	*tali bab*	Plantain Squirrel
Callosciurus adamsi	*tali bab*	Ear-Spot Squirrel
Sundasciurus lowii	*ukik*	Low's Squirrel
Sundasciurus tenuis	*ukik*	Slender Squirrel
Sundasciurus brookei	*lavang*	Brooke's Squirrel
Sundasciurus jentinki	*lunang*	Jentink's Squirrel
Dremomys everitti	*manyik*	Bornean Mountain Ground Squirrel
Lariscus hosei	*lunang*	Four-Striped Ground Squirrel
Lariscus insignis	*maha lolau*	Three-Striped Ground Squirrel
Rhinosciurus laticaudatus	*tikerik batong*	Shrew-Faced Ground Squirrel
Rheithrosciurus macrotis	*jamu*	Tufted Ground Squirrel
Exilisciurus whiteheadi	*sukoh ketang*	Whitehead's Pigmy Squirrel
Exilisciurus exilis	*sukoh mongo*	Plain Pigmy Squirrel
Nannosciurus melantotis	*sukoh*	Black-Eared Pigmy Squirrel
Petaurillus hosei	*kubong bui*	Hose's Pigmy Flying Squirrel
Petaurillus emiliae	*kubong palanuk*	Lesser Pigmy Flying Squirrel
Petinomys setosus	*kubong kumom*	Temminck's Flying Squirrel
Iomys horsfieldi	*kubong kumom*	Horsfield's Flying Squirrel
Hylopetes spadiceus	*kubong kumom*	Red-Cheeked Flying Squirrel
Hylopetes lepidus	*kubong kumom*	Grey-Cheeked Flying Squirrel
Aeromys tephromelas	*kubong*	Black Flying Squirrel
Pteromyscus pulverulentus	*kubong*	Smoky Flying Squirrel
Petinomys genibarbis	*kubong*	Whiskered Flying Squirrel
Rattus norvegicus	*musing telau*	Norway Rat
Rattus exulans	*musing lomu*	Polynesian Rat
Rattus rattus	*musing lubang*	House Rat
Mus caroli (?)	*musing lavung*	Ricefield Rat
Mus castaneus	*musing lavung*	House Mouse
Rattus tiomanicus sabae	*musing telau*	Malaysian Field Rat
Rattus argentiventer	*musing telau*	Ricefield Rat
Rattus tiomanicus jalorensis	*musing telau*	Malaysian Field Rat
Sundamys muelleri	*musing telau*	Muller's Rat
Rattus baluensis	*musing lomu*	Summit Rat
Sundamys infraluteus	*musing lomu*	Mountain Giant Rat
Maxomys alticola	*musing lomu*	Mountain Spiny Rat

Appendix 6: Birds

Scientific Name	English	Punan Vuhang	Reference
Anhinga anhinga	Darter	*manuk siuk*	Ellis:164
Egretta intermedia intermedia	Intermediate (Plumed) Egret	*manok ciap*	35:1
Butorides striatus	Little Green Heron	*cuk*	35:4
Ixobrychus sinensis	Yellow Bittern	*cuk*	35:5
Ixobrychus cinnamomeus cinnamomeus	Cinnamon Bittern	*cuk*	35:6
Ardeola bacchus	Chinese Pond Heron		35:7
Gorsachius melanolophus	Tiger Bittern (Malayan Night Heron)	*cuk*	35:8
Dupetor flavicollis flavicollis	Black Bittern	*cuk*	35:9
Ixobrychus eurhythmus	Schrenck's Bittern	*cuk*	35:10
Haliastur indus intermedius	Brahminy Kite	*savut*	38:3
Accipiter trivirgatus	Crested Goshawk	*tapasik*	38:4
Butastur indicus	Grey-Faced Buzzard	*kun buku*	38:6
Spilornis cheela pallidus	Crested Serpent Eagle	*nyau tawan*	38:8
Ichthyophaga ichthyaetus	Grey-Headed Fishing Darter	*nyau eh eh*	Ellis: 164
Ictinaetus malayensis	Black Eagle	*nyau langit*	38:10
Rhizothera longirostris longirostris	Long-Billed Partridge	*kokah*	47:2
Lophura ignita nobilis	Crested Fireback	*manuk latah*	47:8
Polyplectron malacense schleiermacheri	Malaysian Peacock-Pheasant	*oui taun*	79:bottom
Argusianus argus grayi	Great Argus	*oui latah*	79:top
Rollulus rouloul	Crested Wood Partridge	*jayum*	70:bottom left
Haematortyx sanguiniceps	Crimson-Headed Partridge	*kopak*	70:bottom right
Lophura bulweri	Bulwer's Pheasant	*nyokuei*	70:top
Numenius phaeopus	Whimbrel	*tisit*	86:8
Numenius madagascariensis	Long-Billed (Eastern) Curlew	*tacam*	86:10
Treron capellei magnirostris	Large Green Pigeon	*wek*	130:1
Treron curvirostra curvirostra	Thick-Billed Pigeon	*boyou*	130:2
Treron fulvicollis baramensis	Cinnamon-Headed Pigeon	*boyou*	130:3
Treron olax olax	Little Green Pigeon	*boyou*	130:4
Treron vernans griseicapilla	Pink-Necked Pigeon	*boyou*	130:5
Ducula aenea	Green Imperial Pigeon	*boyou*	Ellis: 164
Ducula badia badia	Mountain Imperial Pigeon	*pakgom*	134:6
Chalcophaps indica indica	Emerald Dove	*punukon*	143:6

Note: Reference according to Smythies (1981) and Ellis (1975:164-166). Numbers without name refer to Smythies according to the page and the number in the plate.

Appendix 6: Birds

Scientific Name	English	Punan Vuhang	Reference
Psittacula longicauda longicauda	Long-Tailed Parakeet	*kiking*	147:1
Psittacula alexandri alexandri	Red-Breasted Parakeet	*kiking*	147:2
Loriculus galgulus galgulus	Malay Lorikeet (Blue-Crowned Hanging Parrot)	*kiking*	147:3
Tanygnathus lucionensis lucionensis	Blue-Naped Parrot	*kiking*	147:4
Psittinus cyanurus cyanurus	Blue-Rumped Parrot	*kiking*	147:5
Merops viridis viridis	Blue-Throated Bee-Eater	*kiking*	147:6
Merops philippinus	Blue-Tailed Bee-Eater	*kiking*	147:7
Nyctyornis amictus	Red-Bearded Bee-Eater	*kuku boep*	147:8
Eurystomus orientalis orientalis	Broad-Billed Roller (Dollarbird)	*kiking*	147:9
Eudynamis scolopacea malayana	Common Koel	*babai upit*	150:2
Phaenicophaeus chlorophaeus fuscigularis	Raffles Malcoha	*kopang*	159:1
Phaenicophaeus diardi borneensis	Chestnut-Bellied Malcoha	orok	159:3
Centropus bengalensis javanensis	Lesser Coucal	*bubut*	159:6
Centropus rectunguis	Short-Toed Coucal	*bubut*	159:7
Centropus sinensis bubutus	Common (Greater) Coucal	*bubut*	159:8
Phodilus badius badius	Bay Owl	*ukong*	166:1
Otus rufescens rufescens	Reddish Scops Owl	*ukong*	166:2
Otus spilocephalus luciae	Mountain Scops Owl	*ukong*	166:3
Otus scops mantanensis	Common Scops Owl	*ukong*	166:4
Otus bakkamoena lemurum	Collared Scops Owl	*ukong*	166:5
Otus brookei brookei	Rajah's Scops Owl	*ukong*	166:6
Ninox scutulata borneensis	Brown Hawk-Owl	*ukong*	166:7
Bubo sumatrana tenuifasciatus	Barred Eagle-Owl	*ukong*	166:8
Strix leptogrammica leptogrammica	Brown Wood Owl	*ukong towan*	166:9
Ketupa ketupu ketupu	Buffy Fish Owl	*ukong*	166:10
Glaucidium brodiei borneense	Collared Owlet	*ukong*	166:11
Chaetura leucopygialis	White-Rumped Spine-Tail Swift	*langau*	Ellis: 164
Collocalia maxima lowi	Black-Nest Swiftlet	*langau*	198:1
Hirundapus giganteus	Brown Spinetailed Swift (Needletail)	*langau*	198:2
Collocalia esculenta cyanoptila	White-Bellied Swiftlet	*langau*	198:3
Apus affinis subfurcatus	House Swift	*langau*	198:4
Cypsiurus balasiensis	Asian Palm Swift	*langau*	198:5
Rhaphidura leucopygialis	Silver-Rumped Swift	*langau*	198:6
Hemiprocne longipennis longipennis	Crested (Grey-Rumped) Tree Swift	*langau*	198:7
Hemiprocne comata comata	Whiskered Tree Swift	*langau*	198:8
Hirundo tahitica javanica	Pacific Swallow	*lenganau*	198:9
Harpactes diardi diardi	Diard's Trogon	*mungulung* (♀) *legehek* (♂)	207:1

Appendix 6: Birds

Scientific Name	English	Punan Vuhang	Reference
Harpactes duvauceli	Scarlet-Rumped Trogon	*mungulung* (♀) *legehek* (♂)	207:2
Harpactes kasumba impavidus	Red-Naped Trogon	*mungulung tajuk*	207:3
Harpactes whiteheadi	Whitehead's Trogon	*mungulung* (♀) *legehek* (♂)	207:4
Harpactes oreskios dulitensis	Orange-Breasted Trogon	*mungulung* (♀) *legehek* (♂)	207:5
Harpactes orrophaeus viduus	Cinnamon-Rumped Trogon	*mungulung* (♀) *legehek* (♂)	207:6
Lacedo pulchella melanops	Banded Kingfisher	*jangoh;* *aseee*	210:1; Ellis: 170
Halcyon concreta borneana	Chestnut (Rufous)-Collared Kingfisher	*mati*	210:2
Halcyon chloris chloroptera	White-Collared (Collared) Kingfisher	*mati*	210:3
Halcyon coromanda minor	Ruddy Kingfisher	*mati*	210:4
Halcyon pileata	Black-Capped Kingfisher	*tingang asak*	210:5
Pelargopsis capensis innominata	Stork-Billed Kingfisher	*tingang asak*	210:6
Alcedo meninting verreauxi	Blue-Eared Kingfisher	*mati*	210:7
Alcedo euryzona peninsulae	Blue-Banded Kingfisher	*mati*	210:8
Alcedo atthis bengalensis	Common Kingfisher	*mati*	210:9
Ceyz erithacus motleyi	Black-backed Kingfisher	*mati*	210:10
Ceyx rufidorsus rufidorsus	Rufous-Backed Kingfisher	*mati*	210:11
Berenicornis comatus	White-Crested (White-Crowned) Hornbill	*lukukun*	227:1
Aceros undulatus	Wreathed Hornbill	*matui; pussa*	Ellis: 164
Rhyticeros undulatus undulatus	Wreathed Hornbill	*matui*	227:2
Rhyticeros corrugatus corrugatus	Wrinkled Hornbill	*kuan jalo*	227:3
Anorrhinus galeritus	Bushy-Crested Hornbill	*lukap*	227:4
Anthroceros malayanus	Black Hornbill	*beli'eu*	227:5
Rhinoplax vigil	Helmeted Hornbill	*terjaku*	227:6
Buceros rhinoceros borneoensis	Rhinoceros Hornbill	*manok otu / kuan*	227:7
Anthrococeros coronatus convexus	Pied Hornbill	*kuan jelo*	227:8
Calorhamphus fuliginosus fuliginosus	Brown Barbet	*niniu*	230:1
Megalaima henricii brachyrhyncha	Yellow-Crowned Barbet	*kuku isak top*	230:2
Megalaima eximia	Black-Throated Barbet	*tak tarat* (♀)	230:3
Megalaima mystacophanos mystacophanos	Gaudy (Red-Throated) Barbet (♂)	*kuku ongan*	230:4a
Megalaima mystacophanos mystacophanos	Gaudy (Red-Throated) Barbet (♀)	*kuku laut*	230:4b
Megalaima australis duvaucelii	Little (Blue-Eared) Barbet	*tak tarat* (♀)	230:5

Appendix 6: Birds

Scientific Name	English	Punan Vuhang	Reference
Megalaima rafflesii rafflesii	Many-Colored (Red-Crowned) Barbet	*kuku molang*	230:6
Megalaima chrysopogon chrysopsis	Gold-Whiskered Barbet	*kuku upak*	230:7
Megalaima pulcherrima	Golden-Naped Barbet	*kuku sak tot iak orob*	230:8
Megalaima monticola	Mountain Barbet	*kuku ongan*	230:9
Picus mentalis humei	Checker-Throated Woodpecker	*takali mongo*	239:1
Picus puniceus observandus	Crimson-Winged Woodpecker	*takali mongo*	239:2
Picus miniaceus malaccensis	Banded Woodpecker	*takali mongo*	239:3
Dinopium javanense borneonense	Golden-Backed Three-Toed Woodpecker	*takali sulau*	239:4
Chrysocolaptes lucidus andrewsi	Crimson Backed Four-Toed Woodpecker	*takali sulau*	239:5
Mulleripicus pulverulentus pulverulentus	Great Slaty Woodpecker	*takali pakgang*	239:6
Dryocupus javensis javensis	Great Black (White-Bellied) Woodpecker	*takali pakgang*	239:7
Dinopium rafflesi dulitense	Olive-Backed Woodpecker	*takali sulau*	239:8
Chrysocolaptes validus xanthopygius	Orange-Backed Woodpecker	*takali mongo*	239:9
Micropternus brachyurus badiosus	Rufous Woodpecker	*takali pakgang*	242:236
Blythipicus rubiginosus parvus	Maroon Woodpecker	*pee-it*	242:2
Sasia abnormis abnormis	Rufous Piculet	*wit*	242:3
	Rufous Piculet	*bukang*	Ellis: 164
Picumnus innominatus malayorum	Speckled Piculet	*wit*	242:4
Hemicircus concretus coccometopus	Grey-and-Buff Woodpecker	*takali sulau*	242:5
Meiglyptes tristis micropterus	Buff-Rumped Woodpecker	*takali pakgang* (♂)	242:6
Picoides canicapillus aurantiiventris	Grey -Capped Woodpecker	*takali pakgang*	242:7
Meiglyptes tukki tukki	Buff-Necked Woodpecker	*takali pakgang*	242:8
Picoides moluccensis moluccensis	Brown-Capped Woodpecker	*takali pakgang*	242:9
Calyptomena hosei	Hose's Broadbill	*tabok*	246:1
Calyptomena viridis gloriosa	Green Broadbill	*kututiu (?)*	246:2
Calyptomena whiteheadi	Whitehead's Broadbill	*kiking*	246:3
Psarisomus dalhousiae	Long-Tailed Broadbill	*kiking*	246:4
Eurylaimus ochromalus ochromalus	Black-and-Yellow Broadbill	*lokokoh mongo*	246:5
Cymbirhynchus macrorhynchus macrorhynchus	Black-and-Red Broadbill	*gangek*	246:6
Eurylaimus javanicus brookei	Banded Broadbill	*lokoh luru*	246:7
Corydon sumatranus brunnescens	Dusky Broadbill	*tergait*	246:8
Pitta arquata	Blue-Banded Pitta	*bunge*	255:1
Pitta caerulea hosei	Giant Pitta	*oui olek*	255:2
Pitta baudi	Blue-Headed Pitta	*bunge*	255:3

Appendix 6: Birds

Scientific Name	English	Punan Vuhang	Reference
Pitta granatina ussheri	Garnet Pitta	*bunge koyan*	255:4
Pitta sordida muelleri	Hooded Pitta	*bunge mongo*	255:5
Pitta guajana schwaneri	Banded Pitta	*oui olek*	255:6
Pitta moluccensis	Blue-Winged Pitta	*oui olek*	255:7
Coracina striata sumatrensis	Bar-Bellied Cuckoo-Shrike	*luburop ayok*	259:1
Hemipus picatus intermedius	Bar-Winged Flycatcher-Shrike	*luburop*	259:2
Hemipus hirundinaceus	Black-Winged Flycatcher-Shrike	*luburop*	259:5
Dendronanthus indicus	Forest Wagtail	*ubin-ubin*	262:1
Motacilla caspica melanope	Grey Wagtail	*ubin-ubin*	262:2
Anthus cervinus	Red-Throated Pipit	*ubin-ubin*	262:3
Motacilla flava simillima	Yellow Wagtail	*ubin-ubin*	262:4
Motacilla alba ocularis	White Wagtail	*ubin-ubin*	262:5
Motacilla flava taivana	Yellow Wagtail	*ubin-ubin*	262:6
Anthus novaeseelandiae	Richard's Pipit	*ubin-ubin*	262:7
Pericrocotus divaricatus	Ashy Minivet	*mungulung* (♀) *legehek* (♂)	271:1
Pericrocotus solaris cinereigula	Mountain (Grey-Chinned) Minivet	*mungulung* (♀) *legehek* (♂)	271:2
Pericrocotus igneus igneus	Fiery Minivet	*mungulung* (♀) *legehek* (♂)	271:3
Pericrocotus flammeus insulanus	Scarlet Minivet	*mungulung* (♀) *legehek* (♂)	271:4
Artamus leucorhynchus leucorhynchus	White-Breasted Wood-Swallow	*mungulung* (♀) *legehek* (♂)	271:5
Artamus leucorhynchus	White-Breasted Swallow- Shrike	-	Ellis:165
Aegithina viridissima viridissima	Green Iora	*seninit*	278:1
Aegithina tiphia viridis	Common Iora	*seninit*	278:2
Chloropsis sonnerati zosterops	Greater Green Leafbird	*manok hom*	278:3
Chloropsis cyanopogon cyanopogon	Lesser Green Leafbird	*lisiroh*	278:4
Chloropsis cochinchinensis viridinucha	Blue-winged Leafbird	*manok hom*	278:5; Ellis:165
Irena puella criniger	(Asian) Fairy Bluebird	*vivit*	278:6
Pycnonotus atriceps atriceps	Black-Headed Bulbul	*luvurop;* *telajik*	287:1 Ellis: 165
Pycnonotus brunneus	Red-Eyed Brown Bulbul	*luvurop; siko luyan*	Ellis: 165
Pycnonotus erythrophthalamos	Lesser Brown Bulbul	*lururop*	Ellis: 165
Pycnonotus eutilotus	Crested Brown Bulbul	*tured; tayay*	Ellis: 165
Pycnonotus melanicterus montis	Black-Crested Bulbul	*ciap lop*	287:2
Pycnonotus melanoleuco	Black-and-White Bulbul	*tolid*	Ellis:165
Pycnonotus plumosus	Large Olive Bulbul	luvurop	Ellis: 165

Appendix 6: Birds

Scientific Name	English	Punan Vuhang	Reference
Pycnonotus squamatus borneensis	Scaly-Breasted Bulbul	*luvurop*	287:3
Pycnonotus cyaniventris paroticalis	Grey-Bellied Bulbul	*luvurop*	287:4
Pycnonotus zeylanicus	Straw-Headed Bulbul	*lavaho*	287:5
Pycnonotus flavescens leucops	Pale-Faced (Flavescent) Bulbul	*lavaho*	287:6
Criniger bres gutturalis	Grey-Cheeked Bulbul	*teyei;*	287:8;
	Olive White-Throated Bulbul	*turid; siko luyan*	Ellis: 165
Criniger finschii	Finsch's Bulbul	*luvurop;*	287:10;
		saw-it	Ellis: 165
Criniger ochraceus ruficrissus	Ochraceous Bulbul	*titiu*	287:11
Criniger phaeocephalus	Crestless White-Throated Bulbul	*beryu-beryu*	Ellis: 165
Hypsipetes criniger viridis	Hairy-Backed Bulbul	*takut*	294:8
Hypsipetes malaccensis	Streaked Bulbul	*lavaho*	294:9
Microscelis criniger	Hairy-Backed Bulbul	*lisiroh*	Ellis: 165
Copsychus malabaricus suavis	White-Rumped Shama	*oan viat* (spirit)	303:2
Copsychus pyrrhopygus	Orange Tailed Shama	*oan viat* (spirit)	Ellis: 165
Enicurus leschenaulti borneensis	White-Crowned Forktail	*pee*	303:4
Enicurus ruficapillus	Chestnut-Naped Forktail	*pee*	303:5
Zoothera interpres	Kuhl's or Chestnut-Headed Ground Thrush	*pee*	Ellis: 165
Cettia whiteheadi	Short-Tailed Bush Warbler	*wit*	306:1
Chlorocharis emiliae emiliae	Mountain Blackeye	*seninit*	306:2
Seicercus montis montis	Yellow-Breasted Warbler	*wit*	306:6
Brachypteryx montana erythrogyna	Blue (white-Browed) shortwing	*ovin layok*	306:7
Eupetes macrocerus borneensis	Rail-Babbler	*pian panyin*	323:1
Trichastoma rostratum macropterum	White-Chested Babbler	*tokut*	323:5
Trichastoma mallaccense	Short-Tailed Jungle Babbler	*tapajok; tekevit*	Ellis: 165
Trichastoma bicolor	Ferruginous Babbler	*tokut;*	323:6;
		bawai upit; tapajok	Ellis: 165
Trichastoma sepiarium harterti	Horsfield's Babbler	*manok kelepui;*	323:7;
		tekluik	Ellis: 165
Yuhina zantholeuca brunnescens	White-Bellied Yuhina	*titiu*	323:10
Pello neum capistratum	Black-Capped Jungle Babbler	*manok kelepui*	Ellis: 165
Pomatorhinus montanus borneensis	Chestnut-Backed Scimitar Babbler	*kotoson*	326:5
Ptilocichla leucogrammica	Bornean Wren-Babbler	*maroi;*	326:7;
		manuk takung	Ellis: 166
Kenopia striata	Striped Wren-Babbler	*manuk takung*	Ellis: 166
Napothera atrigularis	Black-Throated Wren-Babbler	*cokeh nokeh*	326:8
Napothera crassa	Mountain Wren-Babbler	*tepakjob*	326:10
Napothera epilepidota exsul.	Small (Eye-Browed) Wren-Babbler	*tepakjob*	326:11
Malacopteron affine	Plain Babbler	*tajay; kali kewoh;*	Ellis: 166

Appendix 6: Birds

Scientific Name	English	Punan Vuhang	Reference
		manuk nyangin	
Malacopteron cinereum	Lesser Red-Headed Babbler	*tajay*	Ellis: 165
Malacopteron magnum	Greater Red-Headed Babbler	*tajay; selulukik*	Ellis: 165
Macronous ptilosus reclusus	Fluffy-Backed Tit-Babbler	*segakgong totung*	335:1
Stachyris nigricollis	Black-Throated Babbler;	*cokeh cokeh;*	335:5;
	Black-Necked Tree Babbler	*manok kelepui*	Ellis: 166
Stachyris maculata	Red-Rumped Tree Babbler	*gogok*	Ellis: 166
Stachyris erythoptera	Red-Winged Tree Babbler	*bawai upit; segakgong*	Ellis: 166
Stachyris leucotis obscurata	White-Necked Babbler	*cokeh cokeh*	335:6
Yuhina everetti	Chestnut-Crested Babbler	*cokeh cokeh*	335:10
Prinia flaviventris	Yellow-Bellied Wren-Warbler	*bougit*	Ellis: 166
Gerygone sulphurea salvadori	Flyeater	*wit*	354:1
Acrocephalus orientalis	Eastern Great Reed Warbler	*luvurop*	354:4
Abroscopus superciliaris schwaneri	Yellow-Bellied Warbler	*telakjek*	354:5
Phylloscopus borealis borealis	Arctic Warbler	*selarut icik*	354:6
Orthotomus sericeus sericeus	Red-Tailed Tailorbird	*takut*	354:7
Orthotomus atrogularis atrogularis	Black-Necked (Dark-Necked) Tailorbird	*takut*	354:8
Orthotomus cuculatus cinereicollis	Mountain Tailorbird	*takut*	354:9
Orthotomus ruficeps borneensis	Red-Headed (Ashy) Tailorbird	*takut*	354:10
Cyonsis concreta everetti	White-Tailed Flycatcher	*bivit*	371:6
Ficedula narcissina narcissina	Narcissus Flycatcher	*kongoh*	371:16
Muscicapa cyanomelana	Blue-and-White Flycatcher	*vivit*	Ellis: 166
Muscicapa turcosa	Malaysian Blue Flycatcher	*bawai upit; opin layeu*	Ellis: 166
Muscicapa rufigastra	Mangrove Blue Flycatcher	*bawai upit*	Ellis: 166
Muscicapa caerulata	Large-Billed Blue Flycatcher	*bawai upit; ting penyaling*	Ellis: 166
Rhinomyias umbratilis	White-Throated Jungle Flycatcher	*ting penyaling*	Ellis: 166
Philentoma pyrrhoptera	Chestnut-Winged Monarch Flycatcher	*bawai upit*	Ellis: 166
Hypothymis azurea	Black-Naped Blue Monarch Flycatcher	*bawai upit*	Ellis: 166
Rhipidura albicollis kinabalu	White-Throated Fantail	*sang seng*	374:1
Rhipidura perlata	Spotted Fantail	*sang seng*	374:2
Rhipidura javanica longicauda	Pied Fantail Flycatcher	*sang seng*	374:3
Terpsiphone paradisi borneensis	Asian Paradise Flycatcher	*sikau luyan;*	374:4;
		siko kouhap	Ellis: 166
Prionochilus thoracicus	Scarlet-Breasted Flowerpecker	*wit*	383:1
Prionochilus xanthopygius	Yellow-Rumped Flowerpecker	*wit sebirop utok*	383:2

Appendix 6: Birds

Scientific Name	English	Punan Vuhang	Reference
Prionochilus percussus ignicapillus	Crimson-Breasted Flowerpecker	*wit*	383:3
Prionochilus maculatus maculatus	Yellow-Breasted Flowerpecker;	*wit;*	383:4;
	Yellow-Throated Flowerpecker	*wit beurut*	Ellis: 166
Dicaeum chrysorrheum chrysorrheum	Yellow-Vented Flowerpecker	*wit*	383:5
Dicaeum everetti	Brown-Backed Flowerpecker	*wit*	383:6
Dicaeum concolor borneanum	Plain Flowerpecker	*wit*	383:7
Dicaeum celebicum monticola	Black-sided Flowerpecker	*wit lebanyit*	383:8
Dicaeum cruentatum nigrimentum	Scarlet-Backed Flowerpecker	*wit leboyang*	383:9
Dicaeum trochileum trochileum	Scarlet-Backed Flowerpecker	*wit*	383:10
Dicaeum trigonostigma dayakanum	Orange-Bellied Flowerpecker	*wit nyahang*	383:11
Anthreptes simplex	Plain Sunbird	*wit*	Ellis: 166
Anthreptes rhodolaema	Red-Throated Sunbird	*wit lebanyit*	390:1
Hypogramma hypogrammicum hypogrammicum	Purple-Naped Sunbird	*tacam*	390:5
Nectarina sperata brasiliana	Purple-Throated Sunbird	*wit lebanyit*	390:6
Nectarina hypogrammica	Purple-Naped Sunbird	*wit beurut*	Ellis: 166
Aethopyga siparaja siparaja	Crimson Sunbird	*wit leboyang*	390:9
Arachnothera longirostra buttikoferi	Little-Spiderhunter	*ticit*	399:1
Arachnothera crassirostris	Thick-Billed Spiderhunter	*ticit*	399:2
Arachnothera flavigaster	Spectacled Spiderhunter	*tacam*	399:3
Arachnothera robusta robusta	Long-Billed Spiderhunter	*tacam*	399:4
Arachnothera chrysogenys harrissoni	Yellow-Eared Spiderhunter	*tacam*	399:5
Arachnothera affinis modesta	Grey-Breasted Spiderhunter	*tacam*	399:6
Arachnothera juliae	Whitehead's Spiderhunter	*tacam*	399:7
Erythrura hyperythra borneensis	Bamboo Munia (Tawny-Breasted ParrotFinch)	*kiking*	406:7
Lonchura fuscans	Dusky Munia	*manok pit;*	406:9;
		manok upit	Ellis: 166
Dicrurus annectans	Crow-Billed Drongo	*tisiang*	415:1
Dicrurus leucophaeus stigmatops	Grey (Ashy) Drongo	*tisiang*	415:2
Dicrurus paradiseus brachyphorus	Greater Racket-Tailed Drongo	*tisiang*	415:3
Dicrurus hottentottus borneensis	Spangled Drongo	*tisiang*	415:4
Dicrurus aeneus malayensis	Bronzed Drongo	*tisiang*	415:5
Surniculus lugubris	Drongo-Cuckoo	*tisiang lanum*	Ellis:164
Oriolus hosei	Black Oriole	*tisiang*	415:6
Oriolus xanthornus tanakae	Black-Hooded Oriole	*tisiang*	415:7
Oriolus chinensis maculatus	Black-Naped Oriole	*tisiang*	415:8
Oriolus cruentus vulneratus	Black and Crimson Oriole	*tisiang*	415:9
Oriolus xanthonotus xanthonotus	Dark-Throated Oriole	*tisiang*	415:10
Gracula religiosa religiosa	Grackle or Hill Myna	*kiau*	423:3

Appendix 6: Birds

Scientific Name	English	Punan Vuhang	Reference
Platylophus galericulatus coronatus	Crested Jay	*telajan*	423:6
Corvus enca compilator	Slender-Billed Crow	*kukuhang*	423:9
Pityriasis gymnocephala	Bornean Bristle-Head	*kukuboep*	430:3
Amaurornis phoenicurus	White-Breasted Waterhen	-	Ellis: 164
Microhierax caerulescens	Common Falconet	-	Ellis: 164
Copsychus saularis	Magpie-Robin	-	Ellis: 165

Appendix 7: Fish

Scientific Name	Punan Vuhang	Reference
Betta unimaculata	*urun* (only at Kihan and Balui rivers)	SC-39
Cyclocheilichthys apogon	*turing*	66
Cyclocheilichthys repasson (Bleeker)	*turing*	68; SC-10
Elxis sabanus	*itu*	SC-34
Epalzeorhynchus kalliurus	*ngun otu* (found only at higher elevation of small streams)	SC-18
Garra borneensis	*ngun*	SC-17
Gastromyzon borneensis Günther	*letapak*	
Gastromyzon danumensis	*lakot*	SC-21
Gastromyzon fasciatus	*lakot borot*	SC-25
Gastromyzon lepidogaster	*lakot borot*	SC-23
Gastromyzon punctulatus	*lakot borot*	SC-24
Gastromyzon monticola	*lakot borot*	SC-22
Glaniopsis denudata	*kalang*	SC-27
Glaniopsis gossei	*kuvulung*	SC-29
Glaniopsis hanitschi	*kuvulung*	SC-28; 107
Glaniopsis multiradiatus	*kalang*	SC-27
Glyptothorax major	*kalang*	145
Hampala macrolepdidota sabana	*lungan*	SC-12
Homaloptera stephensoni	*li* (?) / kalang	SC-32
Kryptopterus parvanalis	*selakop buai*	SC-36
Leiocassis robustus	*nalam*	SC-37
Lobocheilus bo (Popta)	*paloh*	SC-13
Nemachilus olivaceus	*itu*	SC-35
Ophicephalus melanosoma	*sak sek*	155
Osteochilus spilurus	*paloh*	90
Paracrosssochilus acerus	*ngun*	101
Protomyzon borneensis	*li*	SC-31
Protomyzon whiteheadi	*li*	SC-30
Puntius bramoides	*leverap*	76
Puntius bulu	*leverap*	70
Puntius collingwoodi	*hanya*	77
Rasbora hubbsi	*seluan*	SC-9
Rasbora sumatrana	*seluan; ngun*	SC-8 ; 57
Rasbora sumatrana	*seluan batung*	57
Schismatorhynchus heterorhynchus	*ngun*	87
Tor douronensis	*bitu* when small; *tanguh* when mature	SC-13
Tor Tambroides	*katu*	Not mentioned in Inger and Chin

Note: Fish Species in Inger and Chin (1990) as Identified by Punan Vuhang

Appendix 8: Other Animals Eaten by Punan Vuhang with Scientific Names

Scientific Name	Punan Vuhang Name	English
Apis dorsata	*singot*	honeybee
Apis florea	*lowar*	honeybee
Cipangopaludina sp.	*ku'ep*	a small fresh water snail
Potamonidae (Family)	*kew*	river crabs
Python reticulatus	*sai*	the reticulated python
Rhynchophorus ferrugineus Oliv.	*ciet* (when larvae)	larvae of the large weevil; sago larvae
Rhynchophorus ferrugineus Oliv.	*koloson* (when mature)	sago beetle
Trionyx cartilagineus Boulenger	*balabi*	terrapin
Varanus spp.	*kavok*	monitor lizard

Appendix 9: Other Types of Animals According to Punan Vuhang and General Names (without Scientific Names)

Punan Vuhang	General Name
menyawak	lizard
katip	lizard
kavok	lizard
sai mongo	python
sai lanum	water python
bongi	python
motuk mongo	snake
motuk nyah	snake
limong	snake
timun	snake
tisiah	snake
sa'ai	frog
tavab	frog
lopokang	frog

Punan Vuhang	General Name
lop'aut	frog
ou'i tanok	terrestrial toad
ou'i lanum	toad
keu mongo	snail
keu lokoh	snail
salit	snail
salit bosun	snail
salit ivoh	snail
salit mango	snail
celuhot	shrimp
ciet	sago caterpillar
koloson	sago beetle
singot	bee
murop	bee
munim	bee

Index